

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

Published every Saturday by the
Simmons-Boardman Publishing
Corporation, 1309 Noble Street,
Philadelphia, Pa., with editorial
and executive offices: 30 Church
Street, New York, N. Y., and 105
West Adams Street, Chicago, Ill.

Vol. 105

November 26, 1938

No. 22

SAMUEL O. DUNN, *Chairman of Board*
HENRY LEE, *President*
LUCIUS B. SHERMAN, *Vice-Pres.*
ROY V. WRIGHT, *Vice-Pres. and Sec.*
FREDERICK H. THOMPSON, *Vice-Pres.*
ELMER T. HOWSON, *Vice-Pres.*
F. C. KOCH, *Vice-Pres.*
ROBERT E. THAYER, *Vice-Pres.*
H. A. MORRISON, *Vice-Pres.*
JOHN T. DEMOTT, *Treas.*

CLEVELAND
Terminal Tower

WASHINGTON
1081 National Press Building

SEATTLE
1038 Henry Building

SAN FRANCISCO
485 California Street

LOS ANGELES
530 West 6th Street

Editorial Staff

SAMUEL O. DUNN, *Editor*
ROY V. WRIGHT, *Managing Editor*
ELMER T. HOWSON, *Western Editor*
JAMES G. LYNE, *Assistant to Editor*

C. B. PECK
ALFRED G. OEHLER
F. W. KRAEGER
E. L. WOODWARD
J. H. DUNN
D. A. STEEL
R. A. DOSTER
H. C. WILCOX
NEAL D. HOWARD
CHARLES LAYNG
GEORGE E. BOYD
WALTER J. TAFT
M. H. DICK
W. J. HARGEST
E. J. PHILLIPS
JOHN H. KING
W. H. SCHMIDT
JOHN S. VREELAND

The Railway Age is a member of
the Associated Business Papers (A.
B. P.) and of the Audit Bureau of
Circulations (A. B. C.).

Subscriptions, including 52 regular
weekly issues, and special daily edi-
tions published from time to time
in New York, or in places other
than New York, payable in advance
and postage free. United States,
U. S. possessions and Canada: 1
year, \$6.00; 2 years, \$10.00; foreign
countries, not including daily edi-
tions: 1 year, \$8.00; 2 years, \$14.00.

Single copies, 25 cents each.

H. E. McCandless, *Circulation
Manager*, 30 Church St., New York,
N. Y.

In This Issue

World's Fair Night at N. Y. Club Page 766

A report of the recent meeting held by New York Railroad Club at which plans for exhibits and transportation to and from the coming Fair were thoroughly discussed.

Why Light-Weight Freight Cars? 770

A review of the economic and engineering considerations involved in this problem, by K. F. Nystrom, Mechanical Assistant to Vice President of the Chicago, Milwaukee, St. Paul & Pacific.

Burlington Builds Unusual Locomotive Scale 773

A description of the unit installed by this road at Lincoln, Neb., which has a total capacity of 900,000 lb. and permits the accurate determination of individual wheel loads.

EDITORIAL

The Railway Short-Range and Long-Range Trends 763

GENERAL ARTICLES

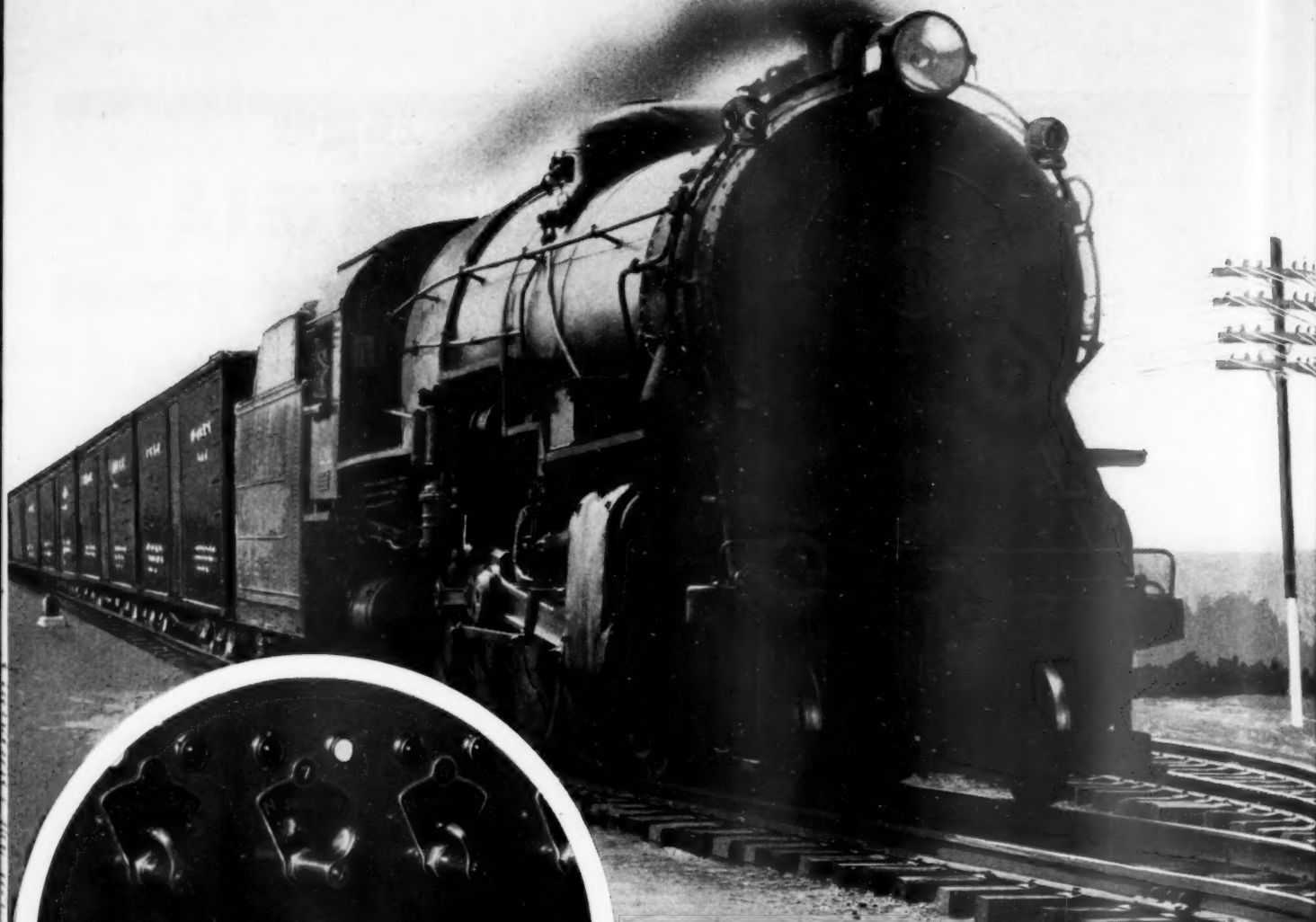
World's Fair Night at N. Y. Club 766
S. P. Keeps Tab on Automotive Costs 769
Why Light-Weight Freight Cars? by K. F. Nystrom 770
Burlington Builds Unusual Locomotive Scale 773
R. R. Regulators in Yearly Parley 776
Johnston to Head Western Executives 779
R. R. Y. M. C. A. Triennial Conference 780
Nit League has Spirited Parley in N. Y. 783
Motor Cars by Rail in Hungary 785

NEW BOOKS 785

NEWS 786

FREIGHT OPERATING STATISTICS 795

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service



**"Local Freights Are Consuming
Less Than Half The Time"—**

**.. Since installation
of "Union" C. T. C.**

SO WRITES a user of "Union" C.T.C. "In fact there is no delay due to meeting or passing of trains, a majority of the meets being non-stop for both trains. The fact that the train dispatcher controls the switches and signals at each end of each siding enables the dispatcher to instantaneously change a meeting point, so that delays are reduced to the absolute minimum, and changes can be made in an emergency that would be impossible with train order operation. I consider C.T.C. installation equal to, and in some respects better than, double track."

He mentions other advantages that his road has derived from installation of "UNION" C.T.C. Shall we tell you about them?

UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PA.



NEW YORK

CHICAGO

ST. LOUIS

SAN FRANCISCO

The Week at a Glance

FREIGHT CAR ECONOMIES: The railroads will need to buy 2,000,000 freight cars in the next 10 years—such is the conclusion of K. F. Nystrom of the Milwaukee in a paper published herein. He bases his conclusion on the present average life of freight cars (and hence the probable retirements) and the supposition that traffic will return to the 1930 level. If 5 tons per car is saved in the weight of these new cars as built, the saving to the railroads in 10 years will be 660 million dollars. Mr. Nystrom has been honored for his scientific work by St. Louis car men, as is related in an item on the news pages herein.

REGULATORY POW-WOW: The public utility commissioners' annual meeting is reported on another page herein. The state regulatory boys, as in the past, disclosed themselves as very jealous of their prerogatives—they don't want the railroads to have too much freedom in making rates, and they don't want I. C. C. authority extended at their expense. Commissioner Beamish of Pa. spoke against government ownership of the railways—because on a trip to Europe last summer he found out that government-owned railways do not tolerate highway competition. The commissioners hold some pretty advanced views on truck regulation, to which we unstintingly recommend our customers' attention.

SPLAWN SPEECH: I. C. C. Chairman Splawn addressed the state commissioners, recommending the establishment of a "transport authority," not only by the federal government, but by each state also. He wants the I. C. C. left in charge of rate regulation, but proposes a department in the government to take over administrative functions now scattered among many government agencies—and the "transport authority" he would also put into this department.

BURT WHEELER HELPFUL: The distinguished chairman of the Senate Interstate Commerce Committee, whose contribution to the solution of railroad difficulties this year has consisted of preventing a vote on the Pettengill bill, now feels like helping the railroads—by government loans to enable the carriers to catch up on undermaintenance, but only if such loans are made prior liens to the railways' existing indebtedness. The Senator's views were expressed in a speech he made at Boston, reported in the news pages herein.

FAIR TRANSPORT: All transportation aspects of New York's World's Fair were described by experts to members of the New York Railroad Club at their meeting last week, which is reported herein. "The World of Tomorrow in 10 Minutes for 10 Cents" is the slogan which epitomizes the Long Island's train services between mid-Manhattan and the exhibition—which will operate on a 2-minute headway. The equipment and supply manu-

facturers' exhibits were outlined by Vice-President S. G. Down of Westinghouse (speaking in place of President G. A. Blackmore). A large animated model will show the process by which railroad supplies begin at the mine and forest, and wind up working on the railroad. The railroads, in addition to Ed Hungerford's "Railroads on Parade," will themselves have a model show on a huge scale. D. L. President J. M. Davis, chairman of the Eastern Railroad's fair committee, presided at the meeting.

LONG AND SHORT RANGE: The short range outlook for the railroads, as viewed in the leading editorial herein, is very favorable. That is to say, the current improvement in general business indicates that the railroads ought to earn about 600 million dollars of net railway operating income in 1939; and, past experience shows, the railways usually purchase from manufacturers about the equivalent of their net railway operating income—and this would mean a large increase in railway buying in 1939. But the long term outlook for the railroads continues to be very black—because, while the 600 million dollars of net operating revenue foreseen for 1939 is a lot more than the railroads are now earning, it still is less than half as much net earnings as are needed if the railroad industry is to continue as a private enterprise. The long term outlook for the railroads cannot be brightened without some sacrifices—and nobody wants to make these sacrifices.

WESTERN LINES' CHAIRMAN: C. E. Johnston, president of the Kansas City Southern, has been elected chairman of the Western Association of Railway Executives, succeeding the late Harry Guy Taylor.

DOMINION MERGER: President Sir Edward Beatty of the Canadian Pacific has addressed a letter to union general chairmen and all employees stating that even those who, like himself, regard unification of the C. P. R. and the C. N. R. as "unfortunate," nevertheless recognize that it "must come." He urges the unionists to "study how it can be accomplished, while full protection in the interest of labor is maintained." Indications are that the general chairman of the standard organizations in Canada at their meeting to be held early in January will discuss the question put to them by Sir Edward.

CUSTOMERS' PROBLEMS: The railroads are urged to give a lot closer study to the specific transportation problems of specific shippers in a resolution passed by the Nit League last week. Before the days of competition, it was up to the shipper to conform to railroad convenience—but nowadays the necessity for conformance is reversed; and some of the shippers seem to think the railroad traffic departments are a little slow in the pick up.

SHIPPERS' PERFORMANCE: After listening to Mr. Bell's plea for shipper action which would get down to fundamentals, the League then voted its approval of a half-dozen or so of the "planks" in the "railroad program"—but not the "planks" dealing with regulating water lines, nor for modifying Section 15a to give the road a better chance at a "fair return," nor for curtailing of "reparations" litigation.

LABOR'S POLITICAL STRENGTH: An industrious collaborator with this department has been checking up the members of the new House and Senate with the list of candidates endorsed by the B. of L. F. & E.—and informs us that, of 435 members of the House, at least 237 will be there with Davy Robertson's blessing. Of the 35 new Senators, not less than 21 enjoyed the B. of L. F. & E. okay. From that showing, one might forecast easy sailing for a program of railway rehabilitation, once the labor organizations support it. The colored gentleman in the woodpile, however, is the doubt whether these lawmakers will join the unionists in helping the railroads, with the same enthusiasm that they have joined heretofore in wrecking them.

SHIPPERS' TASK: The burden of keeping the railroads solvent under private ownership is a legitimate task for shippers to undertake—because they have "more at stake than anybody else" in preventing the catastrophe of federal operation. Such was the contention of James F. Bell of General Mills, addressing the Nit League last week—his speech being reported herein. He recommended setting up a committee of important shippers who could speak with insistent authority toward really getting to the bottom of railroad difficulties and overcoming them.

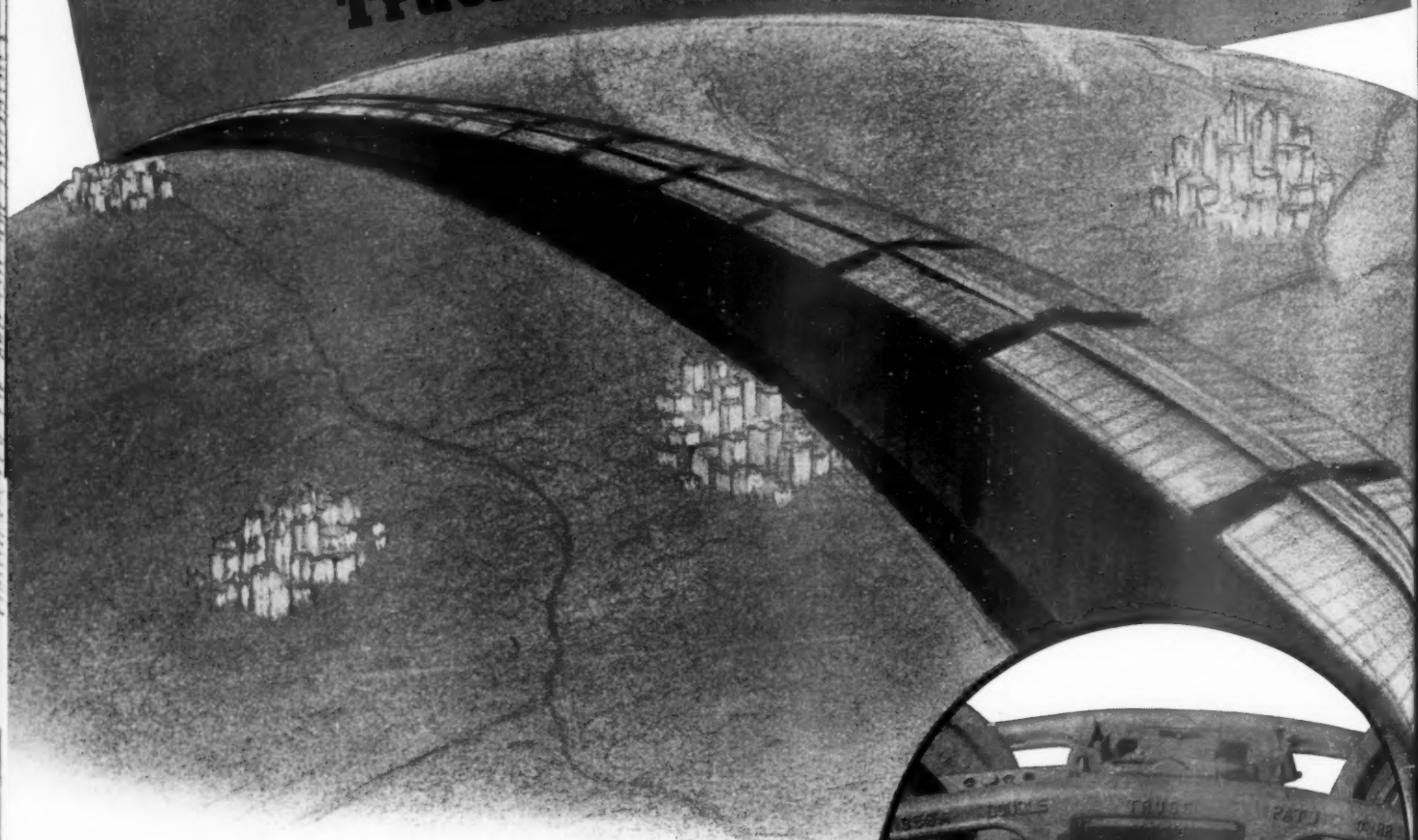
TRANSPORT CLINIC: The Chamber of Commerce conference on the railroads got together this week and agreed on several questions—namely, the repeal of land-grant rates; relief from grade crossing assessments; the removal of the undistributed profits tax; thumbs down on "make work" bills; mitigation of the "back pay" racket. The extent to which, if any, the railroads ought to have government loans is still under discussion.

Q LOCO SCALE: The Burlington has installed at Lincoln a delicate scale—of 900,000 lb. capacity—which will weigh locomotives wheel by wheel. The installation (which is described herein) is revealing some significant information—for instance, of "identical" locomotives, one had 36 tons on the front trucks and the other had 45 tons.

NEED FOR EDUCATION: The Railroad "Y" is a likely agency to bring to the railroads and their employees the advantages of the modern movement for adult education. So Sir Edward Beatty told the "Y" conference, as reported herein.

More than
350 miles of
Freight Cars

... are equipped with
Self-Aligning Spring-Plankless
Trucks ... over 47,000 cars



Self-Aligning Spring-Plankless Trucks
under 47,000 freight cars offer the most
convincing proof of their dependability
and economy.



AMERICAN STEEL FOUNDRIES
SELF-ALIGNING TRUCKS

The Railway Short-Range and Long-Range Trends

There never was a time when those who are supposed to know something about the railroads were being asked by so many persons regarding railroad prospects. Those desiring to sell them equipment and materials, of course, ask regarding their prospects most frequently and anxiously. But there is an unprecedented number of inquiries from persons who are merely a part of the public.

Their attitude illustrates how prevalent is wishful thinking. Almost all of them show skepticism and resentment regarding pessimistic replies. Most Americans believe so strongly in optimism, even when there is no basis for it, that they soon manifest something approximating dislike for those who, for any reason or reasons, express themselves pessimistically. And therein largely lies the explanation of the present railway situation. For more than a quarter of a century the American people have been constantly told by those who have known them the facts regarding the long-range trend in the railroad industry and its causes; but most of them have chosen not to believe the facts but rather to believe almost every misstatement of them that has emanated from any anti-railway business or political source. Hence the failure of public and government to do anything that would, excepting temporarily, change this long-range trend; and hence the railway situation that now exists. It is an interesting and important question whether most of those now asking for the facts will believe them when told them any more than they have in the past. We begin to hope they will; because our confidence in the economic ignorance and stupidity of the American people was somewhat shaken by the last election.

The Favorable Short-Range Trend

As this paper has so often pointed out, there always are a short-range and a long-range trend in railway affairs. During the twelve months June, 1937, to May, 1938, the short-range trend was very unfavorable. The decline of business in general and of railway freight business in particular began to become evident in June, 1937, and caused a decline of railway net operating income in July. Nevertheless railroad managements agreed to advances in wages effective on August 1 and October 1. As a result of the continuing decline of traffic and of these wage advances net operating income steadily declined more than seasonally through April, 1938, in spite of the March advance in freight rates.

This paper repeatedly contended during the wage controversy this year that only a substantial more-than-seasonal increase of freight business could enable the railways to stand existing labor costs. They failed to get a reduction of wages. In consequence, the current trend of their freight traffic has been left not only the most, but almost the only, factor of importance in estimating their prospects from now until the middle of 1939. The trend of their freight business will determine the trend of their net operating income. This in turn will determine until about the middle of 1939 the trends of both railway employment and railway buying.

As the *Railway Age* repeatedly has pointed out, there began about the middle of May a more-than-seasonal increase of freight traffic. It has continued until the present time; and for various reasons seems likely to continue throughout the next year. As is always the case, this more-than-seasonal increase of traffic has caused a more-than-seasonal increase of net operating income. The net operating income of only \$19,300,000 earned in the first quarter of the year yielded return on investment at an annual rate of only 0.39 per cent. The net operating income of \$51,000,000 earned in the second quarter yielded return on investment at an annual rate of 0.86 per cent. The net operating income of \$134,126,000 earned in the third quarter yielded return on investment at an annual rate of 1.66 per cent—relatively more than four times as large as in the first quarter. It was upon the bases of these increases in traffic and net operating income which already had occurred, and which are continuing, that the *Railway Age*, in an editorial in its issue of November 12, estimated that the railways will in the calendar year 1939 earn approximately \$585,000,000 net operating income.

How Much Railway Buying?

In that case how much buying from the manufacturing industry will probably be done? During the nine years and nine months ending with September, 1938, the railways earned net operating income at an average annual rate of \$602,246,000. During the same period they made purchases from the manufacturing industry at an average annual rate of \$624,031,000, or 3.6 per cent more. The figures for the period show that whatever divergence between net operating income, on the one hand, and purchases from the manufacturing industry, on the other hand, may occur, the amount of

net operating income earned controls, in the long run, the volume of purchases from manufacturers, and that, in fact, over periods of years, the two tend to become approximately the same. Therefore, if an estimate of \$585,000,000 net operating income in 1939 is reasonable, it would appear from experience that an estimate of \$600,000,000 railway buying from the manufacturing industry is also reasonable. This would be a somewhat smaller amount of buying than was done in 1936 or 1937, but a substantially larger amount than has been done in any other year of the depression since 1930. It would be a large gain over the amount being done in 1938. Purchases from manufacturers in the first nine months of this year were \$285,000,000 as compared with \$718,000,000 in nine months of 1937.

In estimating the short-range trend in railway affairs there must also be considered some other possible or even probable influences, although nobody can now more than surmise how important they may be. There is talk of legislation offering the railways as much as a billion dollars in government loans to enable them to increase their employment and buying. There are also some other forms of legislation advocated on which Congress could quickly act if so disposed. These include, for instance, repeal of the provisions requiring that reduced rates be given the government on land grant lines. However, all that can be said about these and some other proposals is that in the present state of public sentiment any legislation affecting transportation which may be passed in the early days of the next session of Congress is almost certain to be favorable to the railways and, therefore, to increase the favorableness of the present favorable short-range trend.

The Extremely Unfavorable Long-Range Trend

As to the long range trend in railway affairs, the *Railway Age* expresses deliberately and honestly the opinion that it could hardly be worse. The adoption of government ownership of railways would be the worst single political and economic calamity that could befall this country; and in the opinion of this paper avoidance of that calamity was made extremely difficult by the recent failure of the movement of railway management for a 15 per cent reduction of wages. We realize that by expressing that opinion we invite questioning of our sincerity and criticism for being unduly pessimistic. Well, we began predicting a quarter of a century ago, and have been predicting ever since, that continuance of the kind of government policies being applied to the railroad industry would drive it into bankruptcy. Have we been right or wrong? In the summer of 1933, when almost everybody was lauding the policies of the New Deal, we began predicting they would prevent recovery, and we have been predicting it ever since. Have we been right or wrong?

One intelligent pessimist is worth a million ignorant optimists when he can get himself heeded—which, in this nation of optimistic economic illiterates, is very rarely. It was the ignorant political and business

optimists of the New Era who caused the great stock market boom and bust, and started the great depression. It has been the ignorant optimists of the New Deal who have unnecessarily protracted the depression more than five years and will make it eternal if not prevented by a sufficient increase in the number of intelligent pessimists. And it will be only a comparatively short time until the people of this country will find government ownership has become the only means by which they can keep the railways running unless they very speedily quit heeding the ignorant optimists of both the Old Deal and the New Deal and begin heeding those who, because they really know something about the subject, are now extremely pessimistic about the long range prospects of the railroads.

General Avoidance of the Real Issue

The avoidance of government ownership should be the objective of all policies of management and government. And one thing absolutely essential to avoidance of government ownership is a large increase in the return that can be and is paid upon the capital required by the industry. It is significant evidence of the economic ignorance, short-sighted selfishness and general stupidity and cowardice prevailing in this country that almost everybody who pretends to discuss the railroad problem fails to mention this one fact, although it is the Hamlet of the play. The Chicago Tribune, most undiscriminating and bitter newspaper critic of the New Deal, on November 20 published an editorial entitled "Railway Ailments: A Cure," which was worth a good deal less than nothing at all because, as is usual with this paper, it supported no proposals tending to cause early and adequate increase in the amount of return available for railway capital. Likewise, George M. Harrison, chairman of the Railway Labor Executives' Association and an ardent New Dealer, in a recent address that was published in this paper last week, said much that was constructive about means of increasing railway *gross earnings*, but, naturally, nothing at all about how organized labor and the tax-gatherer are to be prevented from continuing to appropriate an ever-increasing part of the earnings that, under private ownership, should go to capital.

There is no satisfactory evidence that either business leaders or labor leaders, conservatives or radicals, Old Dealers or New Dealers, Republicans or Democrats, are really disposed to help get done the things necessary to providing the railways with the return for capital essential to saving private ownership. Most of them loudly profess, of course, to be opposed to government ownership, and actually believe they are. But of what value have been the good intentions of those, whether Old Dealers or New Dealers, whose economic ignorance and pigheaded selfishness have caused the present depression to come and last nine years? The railways of the United States are in such danger of government ownership because they are located in a country the people of which had to show they were

mostly economic idiots in order to make the present depression last so long.

"Economic Ignorance and Pigheaded Selfishness"

How can the railways be provided with the return on capital required to enable them to remain under private ownership? They must either, first, earn it, or second, be given it by the taxpayers from the public treasury. Are they getting enough return now? The proof they are not is that only a very small minority of them could now raise capital by selling securities to private capitalists. Are there ways in which their net earnings could be increased enough? There are. Why have these means not been adopted? Because of the generally prevalent economic ignorance and pigheaded selfishness above mentioned. They asked for a 15 per cent advance in rates and got 5 per cent. They asked for a 15 per cent wage reduction and got none.

Is anything else now proposed? Many things—some of them by those who know something about the subject, but most of them by those who are like the boy who studied law a day and was "sorry he learned it." The trouble with those who know something about the subject is that it is so hard for them to propose anything that won't cost anybody anything. They may propose something that would be worth a billion dollars a year to the public indefinitely; but experience indicates that if it would cost any shipper or employee or taxpayer ten cents within the next ten years it would be immediately rejected by the economically ignorant and pigheadedly selfish as in the interest of Wall Street and therefore contrary to the public interest.

The principal thing needed to enable the railways to earn more return on capital is a large increase in their traffic and gross earnings due to recovery of general business. That would not cost anybody anything; but it can be caused only by adoption of sane economic policies by government, business and labor regarding all industries, including the railroads—which, after the last decade's experience with economic insanity in this country, seems too much to hope for.

Net Earnings—or Railway Subsidies?

Another thing needed to provide the railways with more return on capital is equalization of the regulation and subsidization of all forms of transportation. In other words, either abolish railway regulation or increase regulation of all other carriers; and either withdraw all subsidies from competing carriers or give the railways corresponding subsidies. This paper for some years, with little support from railway management or labor unions, carried on an editorial campaign for equalization of regulation and abolition of subsidies. Now both management and labor unions apparently are aroused regarding the matter. But are they at last really disposed to fight, and, if so, are they not too late?

Highways suitable for truck traffic have now been built throughout the country; truck service has been generally established; and the shipping public has be-

come accustomed to using it. Furthermore, most of the subsidies to trucking are given by the states and can be taken away only by state legislation. As to carriers by inland waterways, they are even more the darlings of the socialistic Old Deal businessmen and newspapers of the country than the trucks; and there are just as many real socialists among Old Deal businessmen as among the starry-eyed New Dealers, and they will fight just as hard for their favorite forms of socialism. They believe they profit by having the taxpayers defray large parts of their costs of transportation by highway and waterway; and it will be hard, or impossible, to mobilize them against such subsidies.

Why, then, not try to get the federal government to equalize the situation by giving relatively as large subsidies to the railways as it and the state governments now give to carriers by air, highway and water? The principle and practice of government subsidization of any industry or class of persons are entirely unsound economically, and this paper for years has constantly condemned and attacked them. Meantime, government subsidies to competitors of the railways have constantly increased. Meantime, also, other forms of government interference with the railways tending to make it impossible for them to support themselves from their earnings have increased.

The principal responsibility for the maintenance of existing railway wage scales, which under present conditions are excessive, rests upon President Roosevelt and all those who voted for him in 1936, whether they like it or not. Recently the Interstate Commerce Commission, without any legal authorization whatever, made it a condition of the consolidation of two railways that they should provide compensation for those that the consolidation might deprive of employment. Why advocate consolidations as a means of effecting economies if such government policies to prevent them from resulting in economies are going to be adopted?

The government policies of subsidizing the competitors of the railroads, of forcing the railroads to maintain wages higher than their managements consider warranted, of requiring them to employ or continue the employment of persons that are not needed, and of increasing railway taxes, all tend more and more strongly every day to make the operating costs and taxes of the railways greater than they can pay from the gross earnings that the Interstate Commerce Commission will let them make. It constantly becomes clearer that the people must soon either (1) force the federal and state governments to quit subsidizing railway competitors and increasing railway costs, or (2) cause the federal government to adopt a policy of subsidizing the railways, or (3) adopt the policy of government ownership and management. The people may by either (1) or (2) enable the railways to get the increase in return upon capital which is absolutely essential to the preservation of private ownership. Otherwise they will have to adopt government ownership whether they want it or not in order to keep the railways in operation.

World's Fair Night at N. Y. Club

Railroaders hear talks on Fair transport plans
and railroad exhibits



THE scheme of the World's Fair as a whole, the railroad and railroad supply manufacturers' exhibits at the Fair and transportation to, from and within the exposition grounds, were the subjects touched upon during "World's Fair Night" at the New York Railroad Club on November 18. The meeting was opened in the spirit of good feeling and P. T. Barnum by the singing of a new variation of the old English ballad "Come to the Fair" by the Pennsylvania's Keystone quartette, after which members and guests of the club settled themselves down for a many-sided program which ranged from the reeling off of statistics to plain, old-fashioned showmanship.

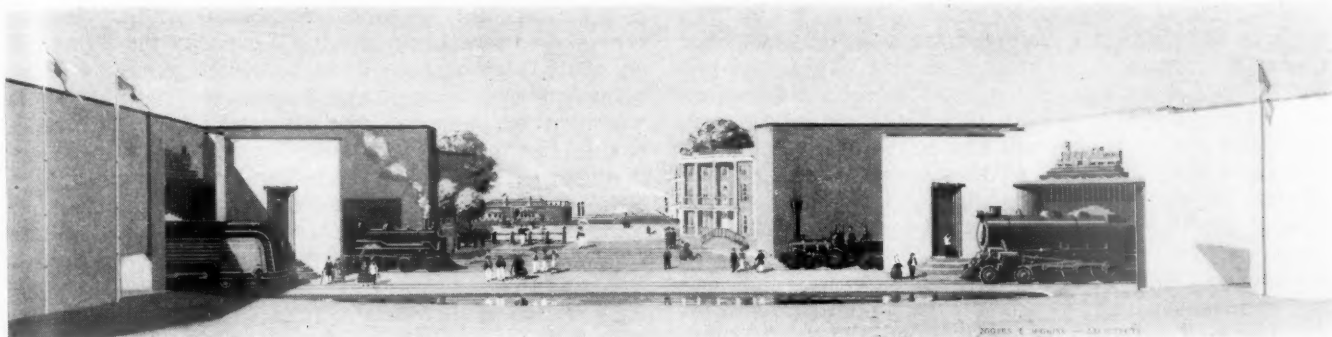
J. M. Davis, president of Delaware, Lackawanna & Western, who is chairman of the New York World's Fair Committee of the Eastern Presidents' Conference, was in charge of the program. In his introductory remarks, he recalled that in December, 1936, the Eastern Presidents' Conference appointed a committee to dispose of a \$2,000,000 quota of World's Fair bonds. When the

goal was attained, the Eastern railroads found that they were the first industry to reach their quota. Mr. Davis also touched upon the appointment of the World's Fair Committee and discussed briefly the participation of supply manufacturers in the railroad exhibit, pointing out that the association formed by the equipment men will receive space in the railroad building at cost. He then introduced Grover A. Whalen, president, World's Fair, Inc., who addressed the club on the development of the Fair as a whole, touching upon its more striking features. Among other things, he pointed out that 61 nations, 40 of the United States, and the federal government are exhibiting at the Fair. He also cited the railroad exhibit as being one which promises to attract a great number of people and praised the carriers for their elaborate preparations and support of the Fair.

Transportation to and from the Fair grounds and intramural transit within was discussed in some detail by F. W. Olmstead, director of transportation, World's Fair, Inc. The speaker emphasized the service to be rendered by the Long Island, for which it has coined the advertising phrase "The World of Tomorrow in 10 Minutes for 10 Cents." He mentioned briefly the new World's Fair station located on the road's Port Washington line, built at a cost of about \$300,000, and opened last Armistice Day. He pointed out that upon opening of the Fair in the Spring, the road will operate trains to and from the site and Pennsylvania station, New York, for a straight fare of 10 cents, for the collection of which the station has been completely equipped with turnstiles. It is estimated that the station will handle 20,000 passengers per hour, and the Long Island is replacing signals in the East River tunnels and constructing additional station and yard tracks so that it may operate 12-car shuttle trains to and from the Fair on a two-minute headway.

When present work is completed the new station will contain a total of seven station tracks and four loading platforms. Eastbound and westbound tracks for use by regular Port Washington branch trains will be located on either side of the platform area, respectively, while four double-end shuttle tracks will be located between them. Interlocking is to be located on the west end of the station. It is contemplated that yard tracks will be erected in the present Corona freight yards, which branch off from the main line of the Port Washington branch near Flushing Creek. By reason of these track changes, the Long Island estimates that it will be able to run shuttles on a two minute headway, in addition to the present total of 87 trains regularly scheduled on the Port Washington branch, 60 of which stop at the World's Fair station at the present time. Mr. Olmstead also mentioned the fact that plans are under way for operation of express buses between railroad stations on Manhattan Island and the New Jersey shore direct to the World's Fair grounds.

Other rail facilities to the Fair grounds will be provided by the joint rapid transit line which the Brooklyn-Manhattan Transit Corporation and the Interborough Rapid Transit Company at present operate to Flushing, for which a new station at the Fair, having a capacity



Courtesy Eggers & Higgins

An Architect's Drawing Portrays How the Stage of the Carriers' Show "Railroads On Parade" Will Appear

for about 40,000 passengers per hour, has been built at a cost of about a half million dollars. The city-owned Independent subway system will also build a two track spur to the Fair and station at a cost of \$700,000, which also will have a capacity of 40,000 passengers per hour. All rapid transit lines have installed new signals for the service and are at present buying additional rolling stock to care for expected demands.

Terminal areas having a capacity of 550 buses per hour will also be provided within the Fair site. These will serve both local franchise bus lines and express buses which will run with closed doors to and from points in New York, Brooklyn and the suburbs. Two trolley turnouts, with a capacity of 15,000 persons per hour, have been built for extensions of trolley lines from Brooklyn, N. Y., and docks for cruisers and excursion steamers have been provided on Long Island sound.

Transportation within the Fair grounds will be provided by three distinct classes of equipment. First, negotiations with local franchise bus lines have been completed whereby these companies will provide buses in the off-rush hour period (when travel within the Fair grounds will be greatest) for use as shuttles between automobile parking areas in the outskirts of the Fair grounds to the exhibit sites proper. Second, a fleet of 100 buses, 40 ft. long and 9 ft. wide, will provide intramural transit within the Fair grounds on regularly scheduled routes. In addition, this equipment will be used for a sight-seeing service to be operated when

congestion at the Fair is not too great. Third, pavement tractor-trains of a narrow gage, having a capacity of 50 people, will move about the exhibit area at a running speed of about 4 m.p.h. for the convenience of those visitors who wish to view the Fair at a leisurely pace. Since it is estimated that to walk through all of the streets and walks of the Fair grounds would add up to a 48-mile hike, it is evident that the intramural transit system will prove to be of great importance.

The next speaker, L. G. Coleman, who is director of the railroad exhibit at the Fair, summarized briefly the railroad exhibit and introduced the speakers which followed. "Pinch-hitting" for G. A. Blackmore, president, Westinghouse Air Brake Company and chairman of the Railway Suppliers' Exhibit committee, S. G. Down, first vice-president of Westinghouse, described the plans of the equipment men for a joint display. He first explained that the supply companies' exhibit will be constructed and displayed entirely as a unit and that the individual firms will be referred to only on a name board listing the participants. Some 600 firms are contributors thus far.

The suppliers' exhibit, to be called "The Exhibit of the Railroad Supply Industries," will consist of a vast artificial mountain landscape, in which will be located an exhibit space 28 ft. high and 80 ft. in diameter, situated in the center of the main rotunda of the railroad exhibit building.

As Mr. Down described it: "The main story is told

This Station Has Recently Been Completed At the Fair Site for the Long Island. It Is Equipped With Turnstiles



in the great animated model which shows step by step the way in which rail materials are obtained, from the raw to the advanced product. The first view the visitor will have of this animated mountain model will be a forest wherein the logs are cut down and moved through the water course to the mill and converted into lumber and from the mill in its various forms to the railway shops. Copper mines, iron mines and cement mills are located at different points on the mountain side, all in operation—extracting and moving the raw materials to the smelters, with furnaces for conversion into commercial products, which, in due course, find their way on the animated railroads to the railroad shops. Various types of railroad car and locomotive building shops are shown in animation, and, as the rolling stock is turned out of the shops, it is made up into trains that are operated over the various interesting sections of railroads which surround the model wherein yard facilities are disclosed, complete signal systems, railroad round-houses, tunnels, bridges, snow sheds, and all other details of practical railroad operation are presented. The animated trains finally reach the other end of the model which is represented by a modern city."

"Upon the visitor's completion of the tour around the mountain from the raw materials to advanced transportation, he then enters the interior where continuous moving pictures will be presented to him covering detail activities in the railroad supply industry. Finally, the interior walls of the model will have a series of dioramas showing, in animation, individual industries."

Model Lay-out "Railroads at Work"

The extensive model railroad to be shown under the sponsorship of the Eastern carriers was described by Paul Penhume, who is in charge of this work. Entitled "Railroads at Work" the model layout is about $\frac{2}{3}$ of a block long and 40 ft. wide. In order to simulate perspective, track and track equipment are being built on three scales, namely, $\frac{1}{40}$ actual size, which would make locomotives about 42 inches long; $\frac{1}{16}$ actual size, having locomotives about 15 in. long; and a still smaller scale called HO, having locomotives about 7 in. in length. In illustrating the use of the three scales, Mr. Penhume pointed out that in several instances a train built according to the larger scale will disappear into a tunnel and a different train of the next smaller scale will emerge at the other end, which, to the audience seated about the model layout, will appear as a phenomenon of perspective. The layout will be equipped with 500 pieces of rolling stock, including 50 locomotives. Of the latter, three will be operated by live steam. Some 1000 separate buildings, 6,000 trees, and 7,000 gallons of water are also to be placed in the exhibit.

The speaker emphasized the fact that the model is to show in every detail and as realistically as is humanly possible the actual workings of a real railroad system. There are in preparation a four-track main line, a two-track suburban branch, a complete freight yard with hump and car retarder installations, and a passenger terminal complete with its complicated network of cross-overs and lead tracks. Operation of the whole layout will revolve about a large union freight and passenger station. Among the typical operations to be carried out in full are the following: (1) A 16-car local freight will run into the locomotive freight yards. The locomotive will be switched to the engine house for firing, dumping, cleaning and coaling. Meanwhile, a switching engine will take the cars in tow and push them over the hump where they will be classified four ways; (2) coal handling will be fully demonstrated "from mine to coal barge;"

Hopper cars will be loaded at typical mine tipples and conveyed to a car ferry, having a capacity for eight cars, on which they will be floated through 40 ft. of water between float bridges complete in every detail. The cars will then be re-assembled into a train and taken to a model "Eastern seaboard" and there passed over a rotary car dumper, having a barney and switchback; (3) a passenger yard "goat" will make up the complete through train in the passenger shed and the passenger engine assigned to the run will be run through typical engine-house routine.

Operation of the model is to be carried on as a permanent show which will be run off in the same sequence for each performance. Designers of the system have provided that the show will not only cover a cycle of railroad operation but will cover a complete day as well. Each show will start with six minutes of darkness, and while the audience witnesses the operation of early morning trains auditorium lights will come on slowly to simulate dawn, while, at the same time, the myriad of signal lamps and street and building lights on the model layout will be blotted out. A half hour later (in model time), the dusk will come, the auditorium lights will be turned out and once again the tiny lamps on the model layout will be lighted.

The speaker enumerated many other novel features of the layout. The locomotives, for example, will be equipped with smoke and sound effects and all cars will be lighted. Model industrial plants along the right of way will be equipped with sidings and will show in detail the handling of grain, steel and cement, etc.; a narrow gauge funicular railway will also be built to demonstrate a non-standard type of railroad construction. The control of the whole system will be placed in the hands of three dispatchers, located in three separate booths. A seating capacity for 1,000 persons will be provided.

Edward Hungerford, director of the pageant "Railroads on Parade" was the next speaker. While main details of the railroad show were described in a news article in the *Railway Age* for November 5, page 681, Mr. Hungerford revealed further details of the pageant which are here set forth. In his introductory remarks, he pointed out that his pageant is light opera and was of the opinion that, while railroads have hitherto appeared in stage plays, motion pictures and novels, "Railroads on Parade" is the first attempt to portray railroading on the operatic stage. The triple stage now being built for the show will contain 3,800 ft. of railroad track; a switching locomotive, cast in the Walt Disney style, will be used as a stage hand; 750 costumes will be used for the proper portrayal of historic scenes. Among the chief features of the various scenes, Mr. Hungerford cited the showing of an original car of the Bunker Hill Granite Railway (stated to be the first railroad in the United States) which will be hauled across the stage by four white oxen; exposition of the Delaware & Hudson's "Stourbridge Lion"; the securing of Leland Stanford's private car; and a 78-ft. locomotive constructed of ply-wood on the chassis of a disused Fifth Avenue bus which will proceed under its own power in one of the final scenes describing the passage of fast freight train from terminal to terminal.

Pointing out that the pageant consists largely of music and drama, Mr. Hungerford stated that for purposes of contrast one act will have no music and will consist entirely of conversation. To overcome acoustical difficulties of the $5\frac{1}{2}$ -acre amphitheatre, a special sound system will be employed in this act, so that characters on the stage will merely move their lips in pantomime while the actual voices will issue from a special

Why Light-Weight Freight Cars?*

The economic and engineering considerations are reviewed —
Present status of the freight-car inventory

By K. F. Nystrom

Mechanical Assistant to Vice-President,
Chicago, Milwaukee, St. Paul & Pacific

SEVERAL years ago, when light-weight passenger cars were beginning to attract the attention of railroad operating men, the speaker started to prepare a technical treatise against light-weight cars. However, after only a preliminary fundamental study, the treatise was abandoned because the speaker became convinced, as far as passenger cars and motive power are concerned, that we could afford to pay rather high prices for reduction in weight. A modern locomotive, either Diesel or steam, as well as a modern passenger car, will make 10,000 miles a month, or 120,000 miles a year. A freight-train car at the present time will probably cover an average of one-tenth of the above mileage, or approximately 12,000 miles per year.

Various figures are available as to the savings per ton of weight reduction in freight cars. The Mechanical Advisory Committee, in their report of February 11, 1935, to Joseph B. Eastman, federal co-ordinator of transportation, submitted a very detailed analysis covering the year 1930 on a given railroad, and arrived at different conclusions covering varying conditions. Thus from Exhibit B on page 142 of the report, the total out-of-pocket expense as calculated from Groups 2, 3 and 4 of this exhibit amounts to about 1.54 mills per ton-mile. In Exhibit A of the appendix, page 152, the out-of-pocket expense for three representative railroads in 1930, and covering the same items as used in Exhibit B of the body of the report, shows a cost of 1.704 mills per ton-mile. In Exhibit B of the appendix, page 154, the matter is approached by analysis of typical train operation, assessing the cost per trip using the same items of expense as in the other two cases mentioned. In this study, the cost per ton-mile varies from 0.619 mills to 1.944 mills per ton-mile, an average of 1.7 mills per ton-mile.

An article by A. F. Stuebing, published in the *Railway Age* of September 2, 1933, shows that a saving of \$18 per ton per year will result to railroads in the weight reduction of a freight car. On the basis of freight cars averaging 12,000 miles per year, this would produce a saving of 1.5 mills per ton-mile.

Savings Per Ton of Reduced Car Weight Estimated at \$12 Per Car Per Year

Another analysis, using the combination of facts by both the U. S. Steel Corporation and the Mechanical Advisory Committee, produces an annual saving for a box car of \$13.48 per ton per year, calculated on making 10,700 miles per year, which reduced to a ton-mile cost equals a saving of 1.3 mills per ton-mile.

Both the Mechanical Advisory Committee and Mr. Stuebing's article in the *Railway Age* have followed approximately the same procedure in arriving at their con-

clusions, but because of difference in weight, cost, mileage, service conditions, etc., used, they arrived at different results. Having in mind the present trend of more efficient motive power and the greater utilization of freight cars, and giving consideration to the fact that the savings resulting from weight reduction are affected by many variables and that any general method of solution of this problem must be approached with due consideration for the varying operating conditions in each particular case, we will assume for the purpose of this paper that a saving of one mill per ton-mile, or \$12 per car per year, probably can be effected for each ton of reduced car weight.

Statements of the manufacturers of high-tensile steel indicate considerable increased corrosion resistance of these steels over carbon steel. However, these claims are based largely on laboratory and accelerated exposure tests and time only will tell how far weight reduction can be carried out without jeopardizing safety and without shortening the life of the car and increasing the cost of maintenance and carrying charge. We will assume an Association of American Railroads unrestricted box car for main-line operation weighs about 46,300 lb., and if this can be reduced approximately 20 per cent, or 10,000 lb., without any change in the life, cost or maintenance expense of the unit, a saving of \$60 per car per year can be realized, due to the five-ton reduction in weight. It is understood, of course, that the car owner would not enjoy all of this saving, as freight cars, particularly house cars, are on foreign lines approximately one-third of the time. Therefore, the net saving to the owner would be about \$40 per car per year.

The present distribution of cars owned by Class I railroads is as follows: Box and automobile, 43 per cent; gondola, coal, coke and ore, 47 per cent; all others, 10 per cent.

A study made by Coverdale & Colpitts, consulting engineers in New York City, in March, 1936, for the American Railway Car Institute, showed that 760,000 freight cars were more than 20 years old. Based on the A.A.R. rates of depreciation, the average life of all classes of freight cars is about 25 years. Coverdale & Colpitts' study clearly indicated that it is generally more economical to buy new equipment than it is to maintain freight cars after they have reached the age of 20 years, at which stage obsolescence also is an important factor, and it is the speaker's conviction that some railroads rebuild cars or give them heavy repairs where it would be more economical to retire and replace them with new cars.

Two Million New Cars Needed in the Next Ten Years

The maximum ownership of freight cars during the last 10 years was approximately 2,658,000 cars in the year 1930, and the ownership in the year 1938 was

* Presented at the regular monthly meeting of the Western Railway Club, Monday evening, November 21, at the Hotel Sherman, Chicago.

1,944,500, or a reduction of 713,500 cars. Based on American history, which shows that after each depression the prosperity wave has increased above previous peaks so that the trend has always been upwards, we must assume that with the return of normal times, American railroads will require at least sufficient cars to equal the capacity of the year 1930, and in order to be conservative, and making allowance for the fact that the

Number of Freight Cars Owned by Members of the Association of American Railroads for the Last 10 Years

Year	No. Freight Cars*
1929	2,645,246
1930	2,658,027
1931	2,595,648
1932	2,368,785
1933	2,369,034
1934	2,256,692
1935	2,262,025
1936	2,007,914
1937	1,944,998
1938	1,944,489
Average	2,305,286

* Letter-ballot figures beginning with 1932.

replacement cars to be built will be of larger capacity than those retired, we will assume that only 75 per cent of the reduced car ownership must be replaced, or a total of 535,000 cars. From Coverdale & Colpitts' report, it is apparent that the retirement of freight cars has been deferred at least 4 years, which would mean that within the next 10 years we would have to replace the 535,000 cars referred to and, in addition, a 15-year retirement amounting to 1,500,000 cars in round figures, or a total of 2,000,000 cars.

The savings which would result in reducing weight on the scale previously given, namely \$60 per car per year, applied to the 2,000,000 cars to be built, would amount to \$12,000,000 annually for each year the quota of new cars are in service, and this saving will multiply as additional new cars are added each year, or a total saving in 10 years of \$660,000,000; allowing that conservative engineers would prefer to accept only 50 per cent, the possible saving still is enormous. To build 2,000,000 freight cars at a cost of, say \$2,000 each, would be a capital investment of four billion dollars which would go a long way toward restoring employment and prosperity.

There is another economic factor in freight-train car construction which has not been given the consideration it deserves—I refer to the cubical capacity of house cars in relation to packages or containers. The standard box car of some years ago was 36 ft. by 8 ft. 6 in. by 8 ft. 6 in. The Association of American Railroads' present standard box car for unrestricted main-line operation has the following dimensions—40 ft. 6 in. by 9 ft. 2 in. by 10 ft., but the trend is to build cars of ever-increasing cubical capacity. There is obviously a practical as well as engineering limit to the inside dimensions a railroad car can be built. The safe limit for the center of gravity of a loaded car was for many years considered 72 in. maximum. Today some loaded automobile cars have a center of gravity of about 92 in. considering body and trucks as one unit, and 100 in. if weight of trucks were excluded. It is, therefore, the speaker's humble opinion that the individual railroads are more or less helpless to solve this problem, but the only body which could successfully handle it would be the Association of American Railroads.

Some railroads are fortunate in having road clearances permitting the building of large cubical capacity cars which puts them in a favorable position as far as ship-

pers of light-weight package freight are concerned. As a concrete example, one railroad recently was favored by a certain shipper because six more boxes of freight could be loaded in their car. Investigation disclosed that the car of the favored railroad was $\frac{3}{8}$ in. higher, otherwise a car from another railroad had identically the same dimensions. If the cubical capacity, or the rectangular dimensions of, say a box car, were definitely fixed, based on standard packing boxes or containers, all railroads would have the same responsibility and privileges. A thorough study should be made, probably in conjunction with the Bureau of Standards and the American Standards Association as to sizes of various cartons and shipping boxes with the view of co-operating with manufacturers to obtain standard sizes of packages. As an example, cartons used by shoe manufacturers are stand-

Weight Analysis of Standard A. A. R. 50-Ton Box Car for Unrestricted Main-Line Operation

	Weight of parts, lb.	Per cent of car weight	Total weight, lb.	Per cent of car weight
Underframe:				
Air brakes	1,044	2.3	...	...
Bolsters	1,826	3.9	...	...
Center sill	3,031	6.4	...	...
Bolster center fillers	755	1.7	...	...
Cross-bearers	521	1.1	...	...
Cross-ties	284	0.6	...	...
Draft gear and couplers	2,494	5.4	...	...
End sills	398	0.9	...	...
Diagonal braces	225	0.5	...	...
Floor supports and brackets	543	1.2	...	...
Side-sill attachments	411	0.9	...	...
Miscellaneous	273	0.6	...	...
			11,805	25.5
Floor:				
Floor	2,406	5.2	...	...
Bolts, nuts, etc.	131	0.3	...	...
			2,537	5.5
Sides:				
Side sills	742	1.6	...	...
Side plates	789	1.7	...	...
Sheets and posts	3,828	8.3	...	...
Door posts	223	0.5	...	...
Framing and lining	2,400	5.2	...	...
Miscellaneous	190	0.4	...	...
			8,172	17.7
Ladders	...	...	281	0.6
Ends:				
End sheets	2,350	5.0	...	...
Framing and lining	693	1.5	...	...
Miscellaneous	169	0.4	...	...
			3,212	6.9
Doors and fixtures	...	...	1,590	3.4
Roof:				
Roof sheets and carlines	2,150	4.6	...	...
Running boards	320	0.7	...	...
			2,470	5.3
Body, miscellaneous	...	...	413	0.9
Total body weight	...	...	30,480	65.8
Trucks	...	...	15,780	34.2
Grand total	...	...	46,260	100.0
Analysis of Materials:				
Wood	...	...	5,774	13.0
Castings	...	...	12,416	27.0
Pressings, forgings, miscellaneous	...	...	28,070	60.0
Total	...	...	46,260	100.0

ard for both men's and ladies' shoes. Assume that a dozen shoe cartons would be the next size of the shipping box of shoes and a still larger container for a gross of shoes, these two larger shoe containers would be of the same dimensions as other containers used for different commodities. If this could be accomplished, we would have an economical house car and it would greatly facilitate door-to-door delivery, standardize highway trucks, and save floor space in warehouses. It is a big problem but it is not insurmountable, particularly as it would benefit both railroads and shippers and undoubt-

edly in some instances mean a reduction in freight tariffs, and would solve the difficult problem of containers for shipment of less-than-carload lots.

Modern Car Designer Faces Difficult Problems

The designer of today in all industrial fields has, by far, more difficult problems to solve than say 25 years ago. This is particularly true in the railroad field. The whole railroad machine has accelerated in speed so that the engineers have not been able to keep pace. In addition, new materials or improvements in old products have developed faster than we have been able to definitely ascertain their merits. Being behind, or at least being conscious of the fact that in order to keep reasonably up-to-date in the development, an engineer is forced to take reasonable chances. Real progress is a series of experiments, some poor, some good. The good or successful experiments are in greater number than the poor ones, and in that light let us be charitable in any new development as long as it is based on sound engineering and the general trend is forward.

The drawing shows a breakdown of the component parts of the A. A. R. recommended standard box car, which indicates that 60 per cent is steel, 27 per cent castings, and 13 per cent lumber. We will assume that in car design in the past, 16,000 lb. unit stress was generally considered safe practice based upon a steel having a yield point of 30,000 lb. The new high-tensile steels have a yield point of approximately 50,000 lb., or an increased strength of 57 per cent, permitting the use of a safe unit stress of about 24,000 lb. On this basis, assuming that cars built in the past were not too strong, the safe weight reduction by employing high tensile steel would be a maximum of 9,300 lb. However, it will be noted that cast parts amount to 27 per cent of the weight of the car, which is equivalent to 12,500 lb. If high-tensile steel were substituted for castings, a further saving in weight reduction can be made. Therefore, when assuming that the 10,000 lb. saving aforesaid can be made in weight it was based on the consideration that further savings can be made in this group.

At the cost of high-tensile steel today, which is approximately 50 per cent higher than ordinary carbon steel, a light-weight car can be built without increasing the cost if full advantage can be taken of the possibilities in the use of steel, as the strength of high tensile steel as mentioned previously, is increased 67 per cent. However, there are practical limitations in using high-tensile steel, such as thickness of plates and parts subject to wear and corrosion.

Probably one of the outstanding accomplishments in the industrial field in the last few years is the introduction of electric welding. The railroads, in some instances, have not fully taken advantage of this new development but history undoubtedly is now ready to repeat itself. Some 30 years ago the riveted and pressed-steel cars were introduced and many of the prominent railroad mechanical officers of that day were vigorously opposed to the steel car, fearing that it would deteriorate very rapidly and it would be very difficult and expensive to repair. The railroads have since learned how to maintain and repair such cars and it is a matter of record that the cost of maintenance of steel equipment is considerably less than the old wooden cars. Today, there is a great apprehension about repairs to welded steel cars. Recently an all-welded car was badly damaged on a certain railroad in an accident and this railroad, on account of the damage, reported the car destroyed and settled for it on that basis. The car owner felt that the car could be repaired and although settlement had already

been made, the car owner repaired the car and refunded 62 per cent of the settlement value of the car.

In this day of rapid progress, it is reasonable to assume that we have established some practices and rules in the past which do not fit into the present picture. In other words, there may be some practices and rules hindering progress. In some cases, it is easier to enforce a rule to prohibit a certain weak device or detail from interchange than to find a means to strengthen it and make it safe at a considerably less cost than to replace it with a new part. I have particular reference to arch-bar trucks and the old type of cast-steel trucksides.

Some Old Practices Retard Modern Progress

There is no question in my mind, on account of the rapid progress made in welding, that these parts could now be reinforced so that they would safely and satisfactorily serve the life of the cars equipped with them.

I fully appreciate that the foregoing has nothing to do with the design of new cars, but I am using the examples to bring home a point in connection with the design of new light-weight cars.

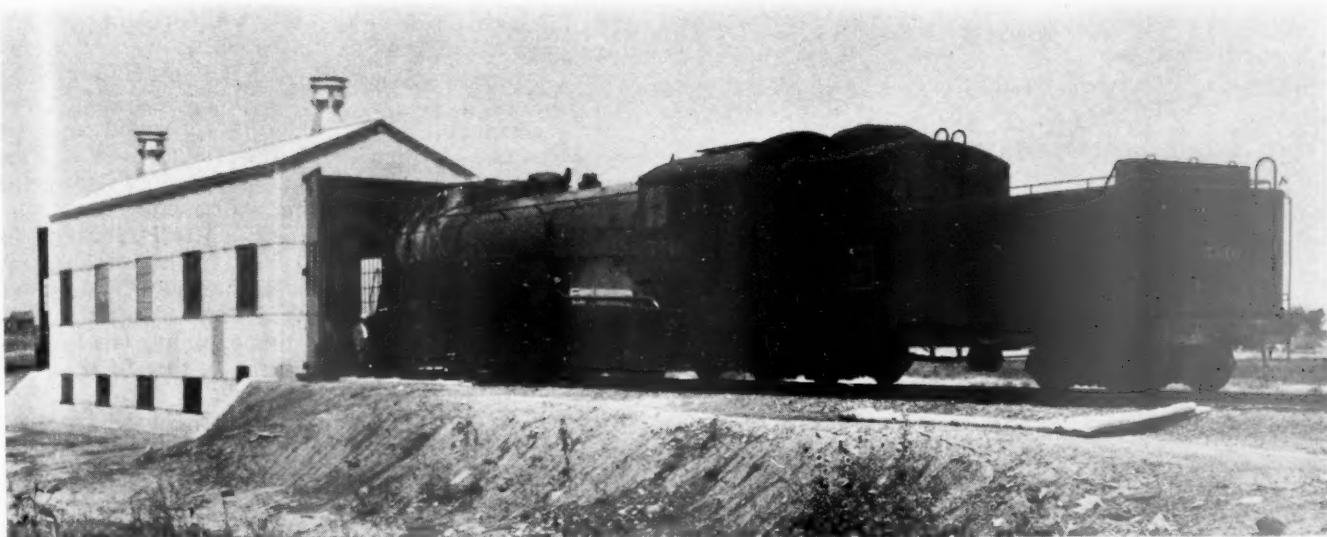
Any railroad man having anything to do with the repair and interchange of freight cars fully appreciates what the old Master Car Builders' Association started and what the Association of American Railroads has faithfully continued to promote, namely, interchangeability of repair parts and no retractive steps should be taken along these lines. I submit, however, for consideration, the suggestion to obtain more freedom in selecting materials so that a freight car truck-side can be made of bars, rolled sections, pressed steel, or cast steel and still be interchangeable and meet strength requirements of the latest type of existing trucks. By using high-tensile rolled steel in place of cast steel considerable weight reduction could be obtained at a lower cost.

Another example is the present center-sill section. This section is very costly to roll and if the steel mills and the engineers had the freedom to employ any suitable section without sacrificing strength, greater progress could be made.

To promote reduction in weight in freight-train cars, the Association of American Railroads should continue their activities to preserve the interchangeability of vital parts and, by specifications, define the strength requirements only for important members such as center sills, truck-sides and other parts.

To push the railroad industry into prominence so as to again become the greatest American industry, a position it had for many years, it is an absolute necessity for railroad mechanical officers, car builders and railway supply manufacturers to unite their experience and efforts. The combination of these three great forces can be likened to a closed graphic stress diagram where the forces are held in equilibrium. As long as these forces are held in equilibrium or harmony, we can work together on a united front and with this combination there is no existing force large enough to prevent the American railroads from brushing aside every obstacle and forging ahead to achievements which would arrest the attention of this nation and the world.

FROM TIME TO TIME REFERENCES have been made to "farthest north" railways, including the Alaska, which extends to 64 deg. north; the Ofoten line in Norway, 68 deg. 26 min. north, and the Murmansk line in Russia, 68 deg. 59 min. north. The record, however, goes to a line recently constructed in Siberia, which runs 60 miles between the port of Dudinsk on the Yenisei river and the copper, nickel and cobalt mines near Norilsk. This line reaches a latitude of 69 deg. 4 min. north.



Locomotive Entering the Scale House Where the Wheel Weights Will Be Accurately Determined

Burlington Builds Unusual Locomotive Scale

Unit with a total capacity of 900,000 lb. permits accurate determination of individual wheel loads, which must be distributed properly to minimize track stresses

THE Chicago, Burlington & Quincy has installed a locomotive track scale at its Lincoln, Neb., engine terminal, which has a weighing capacity of 900,000 lb., and yet will weigh with the same relative accuracy as a delicate laboratory scale. Furthermore, the scale is made of 18 separate units, each of the plate-fulcrum type and comprising in itself a complete scale of 50,000-lb. capacity. These 18 units are arranged in such a way that the weights of the wheels on each side of the locomotive can be determined individually. They are spaced so that any locomotive now owned by the Burlington can be weighed without shifting. In fact, the scale is designed to take any standard locomotive, and it is expected, therefore, that other roads may utilize this installation.

This scale has been installed primarily to enable it to secure more accurate data than has heretofore been available regarding wheel weights, not only on steam and Diesel locomotives, but on dining cars and other equipment in which unbalanced conditions frequently contribute to excessive track stresses, unsatisfactory riding qualities, hot journals, "nosing" and in some cases even broken axles and derailments. High operating speeds accentuate the need for the proper limitation and distribution of wheel weights, which sometimes vary widely even on locomotives of the same class, as determined by weighing individual wheels on accurate track scales.

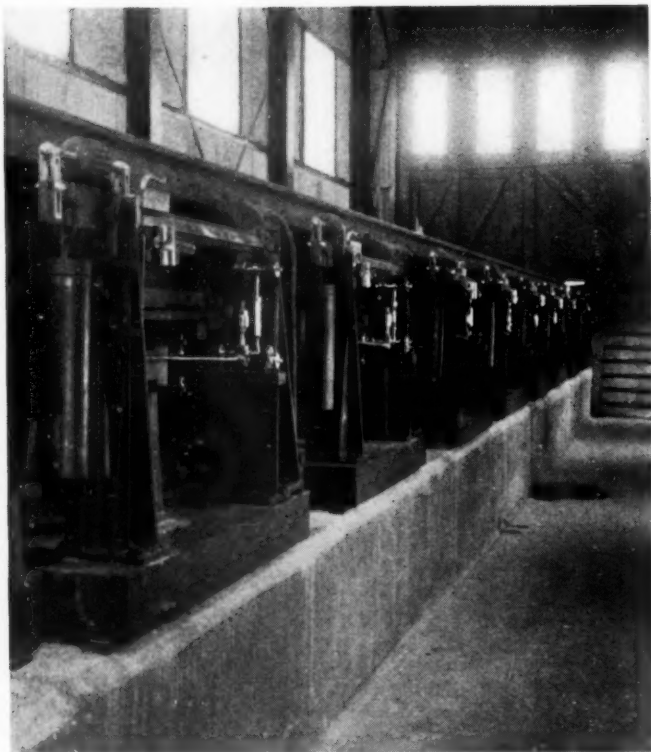
For example, two identical Burlington 4-8-4 type locomotives, weighed on the Lincoln scale showed 72,630 lb. and 90,705 lb., respectively, on the front trucks;

279,000 lb. and 251,265 lb. on the two sets of drivers; 113,105 lb. and 124,500 lb. on the trailer trucks. There was less than one ton difference in the total weights of the two locomotives and inasmuch as the first locomotive was known to have the correct weight distribution, adjustments were made to bring the wheel weights on the second locomotive approximately the same. Similarly, checks frequently show excessive differences in individual wheel weights between the right and left sides.

The new scale is located at Lincoln, Neb., this site being chosen because it is on the main line and fairly centrally located as regards the entire Burlington system. It is placed on a quiet spur track outside the engine-



Exterior of Scale House, Showing Transite Siding and Roof



Close-Up View of Individual Wheel-Weighing Units

house to avoid interference with normal locomotive movements and also to avoid vibrations from shop machinery and passing locomotives.

The scale is a permanent installation, simulating as closely as practicable a section of level tangent track, with the weigh rails and the dead rails at exactly the same elevation.

In determining the type of scale to be used, consideration was given to the fact that the running gear of a locomotive is not very flexible; that is, any appreciable vertical movement of an axle will cause a shift in the load stresses. The knife edges in the conventional type of scale are subjected to some compression under load, and it was thought that this might result in enough depression of the rail carrying the wheels to cause a slight vertical movement in the axle, thus affecting the load distribution on the several axles. To avoid this possible source of error, it was decided to use plate-fulcrum construction in the scale.

Plate-Fulcrum Scale Rigid

The design and operation of a plate-fulcrum scale do not differ from those of the conventional knife-edge type, except that the plate-fulcrum pivots replace the knife edges. Since these pivots are attached securely to the levers which they connect, there is no relative movement of the parts when the load is applied or released. For this reason, scales of this design are rigid and unyielding, with no horizontal or vertical movement when loaded or when changing from the unloaded to the loaded condition or vice versa. As a matter of fact, the maximum depression or deflection of the weigh rail in this installation, when loaded to capacity, is less than 0.006 in., and the movement of the extreme end of the beam between no load and full load is only 0.04 in. As a result, while a locomotive is being weighed, it stands undisturbed on the scale with all of its suspension parts in their natural positions and with the brakes free, exactly as it would on an ordinary piece of track. More-

over, the wheels rest on the rails without flange contact, this being assured by the welding of a small taper-contact lug on the inside of each rail just ahead of the first scale unit.

In developing the plate-fulcrum construction, sensitivity was not sacrificed. The individual units and the scale as a whole are rigid and motionless and weigh with a high degree of precision. Although the capacity of each unit is 50,000 lb., weights up to this magnitude can be read directly by 20 lb. increments, which represent only 0.04 per cent of the capacity. This high degree of sensitivity is not only far beyond what is ordinarily expected of a scale of this capacity, but by comparison is proportionately as great as that of the finest laboratory balance.

Because of the slight movement of the weighing beam, it became necessary to provide an interpolating pointer to indicate when the scale is in balance. By means of a scale and the pointer, the weight may be estimated to within 5 lb., or 0.01 per cent of the capacity of the scale, although practical considerations do not justify readings this close. As a further indication of the sensitivity of this scale, it is said that weights as small as 2 lb. can be detected with the pointer, this representing 0.004 per cent of the capacity.

Units Are Identical

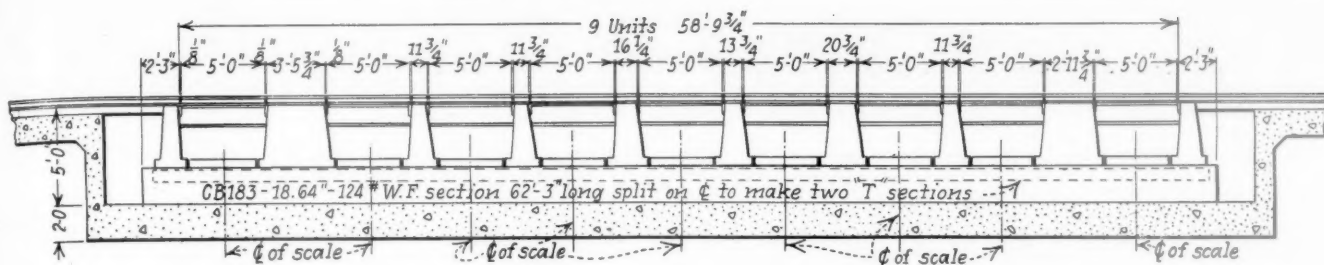
All of the 18 scale units which comprise the assembly are identical. The weigh rails are all 5 ft. long and each one is supported on a girder of the same length, which in turn is mounted on the four girder chairs carrying the main-load fulcrum plates. Since the distance between these fulcrum plates is 5 ft. 2 in., exceeding the length of the weigh rail by 1 in. at each end, any point on the weigh rail is within the main-load pivot span. This insures that there will be no danger of dislocating the scale mechanism if the weight is applied near the extreme end of the weigh rail, and that weight will be registered correctly regardless of the point of application on the weigh rail.

All of the pivots, except the one in the weigh beam,

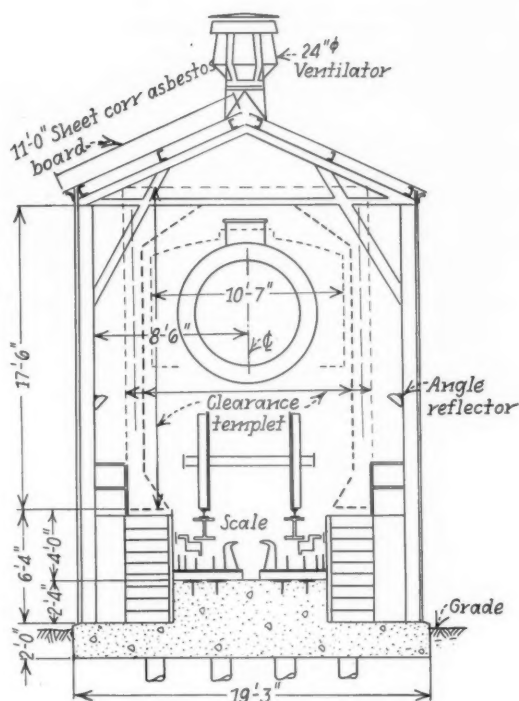


View of Fairbanks-Morse Wheel-Weighing Units, With the Floor Plate Removed

are of the plate-fulcrum design. Each plate is clamped firmly in place in such a manner that neither longitudinal nor lateral movement of the parts can take place. As a further precaution, however, the scale is provided with longitudinal and lateral check rods which are also of the



Elevation of Scale and Longitudinal Section Through Concrete Base, Showing the Spacing of the Dead and Live Rails



Transverse Section of House, Showing Position of Locomotive on Scale

plate-fulcrum type. An important feature of this design is that the fulcrum plates, being held rigidly, do not wear, so that aside from accidental damage, they will not need renewal.

Each scale unit is mounted on a cast-steel base and these bases are carried on wide-flange structural steel beams 60 ft. long, which are imbedded in the concrete foundation. The bearing surfaces of these beams were machined to provide a smooth accurate surface upon which to mount the scale bases. The short sections of dead rail which are interposed between the weigh rails are mounted on heavy steel-arch castings. These castings are the only units of the assembly that are not identical in dimensions, for their lengths vary to accommodate the different wheel spacings. The dead-rail lengths were calculated carefully from a study of locomotive diagrams, and they were cut to suit the spacing requirements for each scale unit. The clearance between the weigh rail and the dead rail does not exceed $\frac{1}{8}$ in.

An idea of the magnitude of the installation is gained from the fact that the shipping weight of the scale parts alone was 154,580 lb., and that four box cars were required for the shipment. It is said that available records indicate that this is the largest permanent installation of locomotive wheel-load scales in the world, that it is probably the only one of plate-fulcrum construction, and that, furthermore, it is probably the most accurate scale of this type that has ever been built.

A massive foundation was provided to insure against the possibility of any settlement or other movement which might cause distortion of the line, surface or level of the weigh rails, since this might have a serious effect on the accuracy of weighing. This foundation is of heavily reinforced concrete supported on 148 treated wood piles, varying from 24 to 30 ft. in length. The overall width of the base section, which is 2 ft. deep, is 19 ft. 8 in. and the length is 70 ft. 3 in. The section of the foundation directly under the scale is 8 ft. 6 in. wide, 63 ft. $3\frac{3}{4}$ in. long and 2 ft. 4 in. deep above the base. The distance from base of rail to footing is 8 ft. 4 in. The T-beams, four in number, upon which the scale bases are mounted, were made by splitting wide-flange I-beams longitudinally.

At the ends of the scale, reinforced concrete slabs, resting on piles, insure the same accurate track level when weighing dining or other cars that exceed the length of the scale itself. These slabs are 26 ft. and 28 ft. $4\frac{1}{2}$ in. in length, respectively.

The scale is housed in a structural-steel-frame building with corrugated Transite siding and roof. A checkered steel-plate floor is installed between the rails to prevent drip and dirt from locomotives from reaching the scale. While ample window space has been provided to give sufficient day lighting, four 200-watt flood lamps with angle reflectors are mounted on the walls at about the level of the tops of the drivers to insure proper lighting on dark days or at night. Standard engine-house doors at each end provide openings for ingress and egress of the locomotives. The scale, of the Fairbanks design, was furnished and erected by Fairbanks, Morse & Company.

* * *



Courtesy Official Information Bureau of Switzerland

This "Autorail" Car on the Newly-Electrified Glion-Rochers de Naye Railway, Switzerland, Climbs 22 Per Cent Grades by Rack Rail

R. R. Regulators in Yearly Parley

Consider rail and motor regulatory problems at New Orleans—W. M. W. Splawn recommends federal department of transportation

CURRENT transportation problems occupied much of the attention of the National Association of Railroad and Utilities Commissioners at its fiftieth annual convention, held at the Hotel Roosevelt in New Orleans, La., on November 15-18. A record attendance of over 500 members, representing commissions of 45 states and the District of Columbia, was present. The commissions of Hawaii and Porto Rico also sent representatives, as did the Interstate Commerce Commission, the Securities Exchange Commission, the Federal Communications Commission, and the Federal Power Commission, all of which are members of the association.

One of the subjects of major importance that were considered was the necessity for continuing state regulation without interference from national governmental bodies, and this was the keynote of the address made by President A. M. Mahood, of West Virginia. The association, President Mahood stated: "must continue to be alert for proposed federal legislation, the effect of which may be to cripple the states in the regulation of their internal affairs."

With respect to certain of the current activities of the A. A. R. as to rate-making, the association passed the following resolution: "This association is opposed to any changes in federal law which will make any single factor a dominant factor for consideration in rate proceedings; or which will operate to prevent the I. C. C. from giving full and fair consideration to all factors bearing upon the justice and reasonableness of rates subject to its jurisdiction; or which will operate to destroy the rate making power of the states, or to subject intrastate shippers to increases in their rates without opportunity for full and fair hearing thereon."

Carrying out the protection of states' rights, the resolution continues: "This association is likewise opposed to any change in the Motor Carrier Act which will operate to vest in the I. C. C. any power whatever respecting rates of motor carriers applicable to intrastate traffic."

Splawn Urges Department of Transportation

W. M. W. Splawn, chairman of the Interstate Commerce Commission, in an address delivered on November 16, recommended the formation of a national Department of Transportation, to take over the functions of some of the existing regulatory bodies and also to exercise new functions. After outlining the history of railroad regulation, Dr. Splawn said: In his message to Congress on April 11, 1938, the President of the United States summarized recommendations which had been made to him by a committee of Interstate Commerce Commissioners at his request as follows:

"1. That approximately \$300,000,000 be made available from government funds for the purchase of railroad equipment, the equipment to be the security for the advance.

2. That for 12 months the Reconstruction Finance Corporation be empowered to make loans without cer-

tification by the I. C. C. that the railroad can meet its fixed charges.

3. That other forms of government credit be considered from the point of view of public policy.

4. That government traffic pay the full rate by eliminating land-grant reductions.

5. That the commission does not feel justified in expressing an opinion for or against a reduction of railroad wages.

6. That reorganization procedure under section 77 of the Bankruptcy Act receive the attention of Congress, and it suggested consideration of the establishment of a single court in charge of reorganizations.

The long-term program suggested by the commissioners includes:

1. That a federal transportation authority be created for two years to plan and promote action by railroad companies to eliminate waste, aid consolidation and coordination.

2. That the Interstate Commerce Act be amended to broaden the powers of the commission with respect to pooling of earnings or traffic, to eliminate "the consolidation plan," and to approve unification; that the authority be permitted to intervene in such proceedings before the commission, and make recommendations through the commission to the President and Congress.

3. That the authority investigate economy in all types of transportation, encourage special fitness, and abate destructive competition.

4. That attention be given to railroad financial abuses now under investigation."

These recommendations look toward the preservation of the railroads as the backbone of our transportation system. We have been so eager to avail ourselves of all the benefits of novel transport that we have lavished billions of public capital and other billions of private capital in creating and extending the new facilities. We have been so successful in multiplying facilities that we are now far ahead of the traffic. The new forms of transportation are in competition with each other and lend themselves to such competition as to threaten financial ruin to many operators of superfluous trucks, barges, ships and airplanes, and disaster to railroads. The fact that the railroads are doing as well as they are is evidence of the sustained demand for their services.

Trucks Not Paying Their Way

Trucks now swarm over thousands of miles of new highways. The state and local governments are heavily in debt for these highways. They are not getting in taxes from the vehicles operating on them anything like enough to keep up the roads and retire the bonds issued in building the highways. Moreover, these governments are now reaching out for federal funds in aid of all sorts of activities. In building the highways the state and local governments have contributed five dollars for every one obtained from the federal government. The larger part of these huge sums was borrowed. With similar borrowings to match federal aid for old age pensions and

other popular expenditures it is inevitable that the credit of many local governments will be over-extended. With such over-extension of state and municipal credit may it not become increasingly difficult, and in many instances impossible, to borrow for highway construction? In the meantime the unforeseen heavy traffic on the highways is rapidly destroying the new hard-surfaced roads. Within a few years many roads now taken for granted may become unusable for commercial vehicles. While this is going on, many railroad companies may abandon considerable portions of their lines. Clearly the government has other duties now than merely to promote additional transportation. The outstanding problem is to conserve the transportation facilities now in existence and to co-ordinate their use in the interest of maximum economy in moving the commerce of the country. In both the federal and state governments there is now required some such agency as the authority which a committee of commissioners recommended to the President. The work of this authority will be very different from that to which our commissions are accustomed. The regulation of rates and fares, the prevention of undue preference and prejudice, and the prohibition of unjust discrimination can be carried on by the existing commissions and the staffs which have been trained in the state and federal agencies.

Conserving Railroad Investment

This work of conservation of perhaps 60 billion dollars now invested in transportation and the co-ordination of these varied and far-flung agencies will require the co-operation of strong federal and state authorities. These authorities may be called co-ordinators, conservators, or directors. Whatever their title, their function will be to bring to bear the authority of state and federal governments in co-operation to prevent the disappearance of billions of capital already irrevocably committed to transportation and the co-ordination of the activities of the many companies owning and operating this capital, to the end that commerce may flow freely and most economically.

There might be efforts by one group or another to capture these authorities and use them selfishly for the aggrandizement of some particular group or groups. The struggle for the profits of operation between the powerful shippers and the managements, between owners of the capital and the employees, have got out of hand. The railway executives, capable and hard-working as they are, are no longer able alone to deal with these great issues. An umpire, impartial and responsible to the taxpayers, is now required. But a mere umpire in disputes, national or state-wide in scope, alone would be inadequate. In addition to the services of the arbiter there should be added the more positive force of the conservator.

Today, the means of transportation are over-extended and built far ahead of the traffic. We see all about us financial failure of transportation companies, cut-throat competition, rate wars, and the giving of rebates concealed through one legal device or another. State and federal commissions, in dealing with rates, find themselves more and more concerned with minimum rates; with the floor instead of the ceiling of the rate level. The present commissions, state and federal, began as rate tribunals. Their most effective work has been in the regulation of rates. Their organization and staffs are best fitted for such work and are not well suited to the more direct executive and administrative duties of conserving and co-ordinating. The Interstate Commerce Commission and most of the state commissions

might well be left to specialize in quasi-legislative and quasi-judicial work of rate tribunals. As such they could be regarded as agencies of the legislatures and of the Congress, wholly independent and free from any political pressure. For their work to be of most benefit, new agencies of government are now called for to work out economies with the managements of the companies, which the competing company executives now find themselves helpless to bring to pass.

Suggested Regulatory Set-Up

May I suggest the following division of labor within the federal government as regards transportation:

(1) That there be assigned to the Interstate Commerce Commission all jurisdiction exercised under federal statutes over rates and fares and the prevention of discriminations in rates and fares;

(2) That other activities of the federal government in the field of transportation be placed in a department of transportation. To such a department there could be transferred the present agencies dealing with transportation which are scattered about through various departments of the government. The activities of several of these agencies are largely promotional. There is every reason for better correlation of these promotional endeavors of the government. There could be transferred to the department of transportation the various activities now placed in the Interstate Commerce Commission which are independent of the regulation of rates and fares. The new authority, the beginning of which was recommended to the President by a committee of Interstate Commerce commissioners, should be placed in the department of transportation.

Under this division of labor, all executive and promotional activities, together with the efforts of the government to co-ordinate and conserve would be brought under one directing head. On the other hand, the protection of the shippers in just, reasonable, and nondiscriminatory rates, charges, and practices would be committed entirely to the Interstate Commerce Commission. With the multiplication of modes of transportation, the burden of rate regulation in interstate commerce has become so great as to be quite sufficient to absorb all of the energies of the Interstate Commerce Commission. Under this arrangement, the Interstate Commerce Commission would be left as it is—an independent commission. The new department of transportation would be an executive department in which could be lodged all of the promotional and other activities now carried on in eight or ten different departments and authorities. They would be correlated in the interest of economy and efficiency. By such a division of labor and after some further appropriate legislation, equality of treatment could finally be realized; and assurance could be had that aid by the government would promote the general welfare.

The Transportation Problem

The discussion on the rail transportation problem was led by Homer Hoch of Kansas, co-author of the Hoch-Smith bill, who stated that state commissions can do little as to the broad scope of this problem, but can do a great deal in taking care of some of the details. He said that state commissions should do what they can to promote rail-highway co-ordination since the public is entitled to it, but warned that it brings up certain problems such as having independent truckers force the railways to establish joint routes and rates.

R. J. Beamish, of Pennsylvania, spoke against govern-

ment ownership of railways, basing his ideas on a study he made this summer of the Swedish lines, the most successful government-owned railways in Europe. Admitting that these railways were in unusually good shape, he stated that the reason for the showing was the complete throttling of highway competition by the Swedish government, which deprived the public of a service to which they were entitled.

The Gypsy Trucker

C. V. Terrell, of Texas, urged that the association take active and drastic steps against the gypsy trucker. He declared that if the "gypsy trucker" is to continue to have the privilege of using the public's highways for the purpose of merchandising, then the common carriers, both rail and truck operating over fixed routes, should be authorized by law to engage in merchandising as a means of procuring tonnage and revenues to sustain the operation of their transportation facilities. He further declared that it is folly for the states and the nation to allow wildcat operators to destroy the real advantages inherent in the motor truck as an agency to serve the public.

He pointed out that 35 per cent of all commodities bear 65 per cent of the total revenue to the carriers. The remaining 65 per cent of the commodities bear 35 per cent of the total revenue to the carriers. For the year 1934, in Texas, a comparison of commodity revenues was made. It showed that the average revenue per ton accruing to the rails from all tonnage over all distances was slightly in excess of \$2.50; whereas the average revenue per ton accruing to the truck lines was in excess of \$8.

Mr. Terrell said that we have experimented long enough, and from our experiences over the past few years by a real study we can find the place for each agency. The trucks are adapted for the movement of high revenue bearing tonnage only over short distances and over some distances may haul it at lower rates than the rails. If the trucks are allowed to haul the high revenue bearing tonnage over long distances, it leaves for the rail carriers only that 65 per cent of the tonnage which bears only 35 per cent of the revenue. The obvious result will be that the railroads must raise the rate on 65 per cent of all the nation's tonnage in order to continue adequate service. Further delay in finding the place for the truck in our national transportation system is wasteful and represents a short-sighted policy.

Regulation which will preserve for the rails the revenues from high revenue bearing tonnage over long distances, if enacted and enforced by the states and the nation, will give to the rail carriers a breathing spell in which to adjust their finances and equip themselves for greater service and to retain the place in our transportation system for which they are best suited. Such regulation likewise will relieve the highways of great volumes of fast moving tonnage. Such regulations, if enacted and enforced, may subsequently be modified if the railroads fail to meet their obligation to the public.

He suggested that contract carrier applications be analyzed and that all regulatory bodies, both state and federal, inaugurate policies to preserve these eternal principles established in the first efforts at regulation of carriers for hire, so that no agency of transportation may be allowed to give one industry, one community, or one shipper a competitive advantage in either rates or services over others.

He further said that, faced with these conditions, the commissioners should by acts and words, in the public interest, foster regulation of all transportation agencies which will preserve equal opportunity for all people to

compete in private industry and to prevent any industry, community or shipper from obtaining advantages in rates and services. It is imperative that regulation by statute be made and enforced which will insure the foregoing to preserve equal opportunity to all users of transportation.

Such regulation must include the so-called "private trucker" who, in fact, is operating for hire.

H. L. Hooker, of Virginia, led the discussion on motor transport problems. He stated: "There is considerable interference by the I. C. C. with state regulatory bodies in matters of transportation so that in many cases, states' rights are being completely overlooked," and cited cases in Virginia to prove his point.

M. Cook, of Indiana, speaking on the same subject, confirmed Mr. Hooker's contention. He stated further that there is no place for the truck in long-distance hauling, except where more expedited service could be performed, and, in such cases, the trucks should charge higher rates than the railways. He brought out the fact that many truck lines are evading the wishes of state commissions in issuing certificates by handling traffic over circuitous routes between points where they do not have authority over the direct route. He also stated that both the railways and the motor carriers make exceedingly poor presentations before commissions and joint boards when they appear as protestants against granting certificates.

Committee Reports

The necessity of campaigning for re-election prevented some of the committee chairmen from presenting reports. The report of the committee on motor vehicle transportation, of which F. E. Southard, of Maine, was chairman, after discussing safety regulations, weights and sizes of vehicles, maximum hours and minimum wages, pointed out that regulation of motor carriers is seriously deficient in some respects. The report said: "Classifying as a contract carrier by motor vehicle is the effective avenue for evasion of regulation. It defeats the declared object of such legislation, and is being extensively used to the serious injury of public transportation and its proper regulation. Contract carrier operations, under depressed business conditions, are growing by leaps and bounds, because they permit direct competition with common carriers free of regulation of rates and restriction of shippers. Infringement upon existing adequate service, rate chiseling and discrimination, sought to be eliminated, continue to flourish with the added advantage of legalization. Our zealous efforts for the protection of private carriage for hire have proved a boomerang.

While every person has the right to operate his own vehicle for the transportation of his own goods, and has the equal right to hire such vehicle, with its driver, instead of owning the vehicle and employing the driver, experience now shows that whenever any such hired contract carrier contracts with and serves two or more shippers, his operation becomes clothed with a public interest to the extent requiring full regulation of rates, operation and service. The intermingling of contractual rights with two or more shippers, the general assumption of duties of an insurer, the use of the same highway, the transportation of the same commodities, for the same shippers, as, and in direct competition with, common carriers by motor vehicle, but at any rate agreed upon, cause such operations to become charged with that degree of public interest which requires regulation. Unless by rule or order, and by necessary legislation, equal regulation is applied to those serving two or more shippers as

contract carriers, as is required of common carriers, regulation of motor carriage will amount to nothing more than an unconstitutional discrimination, persecution and confiscation of property of the carriers upon whom the burden of public transportation rests.

By their very nature, the operations of a private motor carrier are confined to the service of the employer thereof, being restricted only as to type of operation but not as to commodities or territory. That is, such operation is confined to the hauling which the employer could perform with his own vehicle in the transportation of his own property, anywhere and any distance.

A special committee on uniform motor freight classification, of which E. L. Taylor, of Connecticut, was chairman, reported that, after conferences among themselves and with members of the I. C. C. staff, it was agreed that the fundamentals of such classification would be the grouping of articles on the basis of weight and volume primarily, giving consideration to other factors only secondarily. It was the opinion of the committee that the railroad classification, or any adaptation of it, would prove altogether unsatisfactory for the motor trucking industry, as this would result in improper and unsound rates. It was recommended that the rate and volume studies now being undertaken be continued and studied carefully as a basis on which uniform classification could be worked out. No group has yet taken action toward the construction of a motor freight classification based entirely on the characteristics peculiar to the motor vehicle and the committee stated that none of the classifications now in existence can be used as a point of departure for a proper uniform classification specifically adapted to the needs of the motor carrier industry. The number of classes contained in such classification should be the minimum necessary for its proper application, which would avoid the large number of commodity rates and exceptions of the rail classifications and simplify the classification so that it would be readily understandable and enforceable as to both the carriers and the shippers.

Officers Elected

Nelson Lee Smith, chairman of the public service commission of New Hampshire, was elected president of the association for 1938-39. Harry Bacharach, president of the board of public utility commissioners of New Jersey, was elected first vice-president, succeeding Mr. Smith, and James W. Wolfe, chairman of the public service commission of South Carolina, was elected second vice-president to fill a vacancy. John E. Benton was re-elected as general solicitor; Clyde S. Bailey and R. E. May were also re-elected secretary and assistant secretary, respectively.

Seattle, Wash., was chosen as the next meeting place of the convention, which will be held there on August 22 to 25, 1939.

Johnston to Head Western Executives

CHARLES E. JOHNSTON, president of the Kansas City Southern, has been elected chairman of the Western Association of Railway Executives, Chicago, effective January 1. He succeeds Harry G. Taylor, who died on August 10, 1938, and who was elected commissioner of Western Railroads and chairman of the Western Association of Railway Executives

when this position was created in 1932 as part of a movement to control revenue losses due to competition between Western lines. In his new position Mr. Johnston will continue the work started by Mr. Taylor in bringing about savings for the Western lines through the elimination of preventable waste. His duties will be in connection with co-operative action between the various western lines in matters of rates and train schedules.

Mr. Johnston will continue, as did his predecessor, to bring into each situation as it arises, a consideration divested of individual bias with a resulting fair disposition of competitive matters.

Mr. Johnston was born at St. Elmo, Ill., on October 30, 1881, and entered railway service in 1897, as an of-



Charles E. Johnston

fice boy and call boy for the Chicago, Paducah & Memphis (now a part of the Chicago & Eastern Illinois). For one year he served as chairman, rodman and transitman on the St. Louis-Southwestern, and in 1898, returned to the Chicago & Eastern Illinois, where he was employed in the engineering department until 1900. In that year, he was appointed assistant engineer maintenance of way of the St. Louis-San Francisco, and in 1903, was appointed resident engineer on location and construction for the Missouri Pacific. In the same year he was appointed assistant engineer maintenance of way for the St. Louis-San Francisco, and resigned in 1906, to become locating engineer for the Kansas City Southern. He held this position until 1908, when he was promoted to office engineer, while a year later he was promoted to division engineer. In 1911, he was promoted to chief engineer, and in 1917, to general manager. In 1924, he was elected vice-president and general manager, and in 1928 was elected president.

In his capacity as chief engineer and later as operating officer and chief executive of the Kansas City Southern, Mr. Johnston initiated an extensive program of grade reduction and physical improvement of the property that contributed to its marked increase in operating efficiency.

R.R.Y.M.C.A. Triennial Conference

Constructive and aggressive program outlined
for the next three years

THE Twenty-first Triennial International Transportation Conference of the Y. M. C. A. of North America was held in the Royal York Hotel, Toronto, Canada, November 9-11. Delegates, both lay and secretarial, attended from 26 different railroads in the United States and Canada; there were 314 registered delegates and 146 visitors.

These triennial conferences to a large degree point the direction along which progress is to be made for wider and more effective effort. While they schedule a certain number of addresses of the inspirational and informative types, the effective working machinery of the Conference consists of reports from commissions appointed at the previous meeting, and intensive discussion groups which make recommendations for study and work to be done in the three years intervening before the next conference.

In organizing the conference the following officers were elected: President, H. J. Humphrey, vice-president and general manager Eastern Lines, Canadian Pacific Railway; vice-presidents, L. J. Bentley, general safety agent, Chesapeake & Ohio; F. H. Hall, vice-president, Brotherhood of Railway and Steamship Clerks; L. O. Head, president, Railway Express Agency; A. J. Hills, chief of personnel, Canadian National Railways; and Roy V. Wright, *Railway Age*; recording secretaries, J. F. McTyler, A. R. McPhee and C. Kidwell.

The conference was welcomed to Toronto by Controller F. J. Conboy, acting mayor of that city, and on behalf of the two Canadian Railways by Major F. L. C. Bond, general manager of the Central Region of the Canadian National Railways. The devotional services throughout the conference were led by the conference pastor, Rev. David A. MacLennan, minister of the Timothy Eaton Memorial Church of Toronto.

The R. R. Y. M. C. A.

In his introductory remarks at the banquet on Thursday evening H. J. Humphrey, president of the Conference, summarized the work of the Railroad Y. M. C. A. in the following six brief sentences.

A co-operative enterprise, established and maintained by the management, the men and the Y. M. C. A.

It affords an opportunity for men to express their interest in their fellow men.

It is an excellent place for fellowship and comradeship.

It affords opportunity for rest, recreation and self-improvement.

It is a Christian, educational and cultural movement.

It has a comprehensive program of service to the men, their families and the community, under trained and experienced leadership.

At the business session on Wednesday afternoon the keynote address, "Personal Christian Living and the Christian Task in Modern Society," was made by Dr. Justin Wroe Nixon of the Colgate-Rochester Divinity School, and chairman of the Department of Research

and Education of the Federal Council of Churches. Doctor Nixon closed his address with this significant statement: "We are hearing overhead in these strange times of ours the whine of a motor of a new age. It wants to come down. It can come down only if men learn how to co-operate together enough to furnish for this new age a safe landing field. It is Christian vision that tells us that a new age is there hovering above us. It is our American experience in co-operation which can furnish the means by which that vision can become a reality."

At the dinner session Wednesday evening Dr. A. J. Brace, world service secretary of the National Councils of the Y. M. C. A. of Canada and the United States, made an address on "World Citizenship." Doctor Brace told of the far-flung activities of the Y. M. C. A. throughout the world, giving special attention to conditions existing in China, where he was located for many years.

Obviously any conference of the Railroad Y. M. C. A. must give a large and important place on its program to relationships between the workers and management. While the discussion of means for improving such relationships was woven more or less throughout the entire program of the conference, special attention was given to it at the formal dinner on Thursday evening, when addresses were made by Sir Edward Beatty, chairman and president of the Canadian Pacific Railway, and George M. Harrison, grand president of the Brotherhood of Railway and Steamship Clerks of the United States, and general chairman of the Association of Labor Executives.

That part of these addresses relating to the obligations of labor and capital was reported upon fully in the *Railway Age* of November 19, 1938, page 736.

Secretary Roper's Address

The address of G. K. Roper, senior secretary, Transportation Department, National Council of the Y. M. C. A., might well have been titled, "Taking Inventory and the Job Ahead." Mr. Roper commented upon the present status of the movement and the difficulties which must not only be faced but be overcome, and purposes and plans for the future. "We must bear in mind," said he, "that in the conduct of this total enterprise there has been no motive of gain. The underlying purpose of this organization is an unselfish one, as exemplified by the lives of the devoted men who serve it in official capacity, and the thousands of Christian laymen who give of their time and thought without remuneration. This enterprise, therefore, is making now, as it has through the years, a distinctive contribution to the quality and morale of the human element in the transportation industry."

Among the immediate difficulties and perplexities faced by the movement, Mr. Roper stressed the lack of understanding on the part of certain railroad leaders of the values inherent in the enterprise and the actual service it is rendering. Another difficulty is the ever-present alibi of legislative interference, public disapproval and economic difficulties, which seem to preoccupy the minds

of those who might most largely benefit by a wider use of the organization. Lack of financial resources has also been a deterrent.

Mr. Roper suggested four specific and definite needs at the present time.

1. A broader culture, a deeper poise, and a wider understanding of life's true values, its purposes and objectives on the part of our employed personnel.

2. A larger and more purposeful group of laymen in our various forms of committee service, men who understand and are able to interpret to others the essential purpose of the movement.

3. Better methods of interpreting our work to the membership as a whole, and to those in a position to advance its interests and its service.

4. A redefinition in words and a deeper understanding in our hearts and minds of the spiritual possibilities and objectives of this movement, as well as more intelligent methods in bringing men into a more vital understanding of the possibilities offered for a richer life on the part of individuals who may be brought to comprehend the application of the teachings of Jesus to the every-day relationships of life, not only as they apply to our personal practices, but as they can be brought to bear upon our economic existence.

Commission Reports

Comprehensive reports were made by the four commissions which were appointed at the conference in Washington three years ago. The responsibility of a commission is not simply to prepare a report and recommendations, but during the three-year period to work on definite projects wherever possible, meanwhile checking in with various groups and smaller conferences. The final reports, as finally presented to the Conference, therefore, have already had widespread discussion and in most instances contain recommendations based on actual accomplishments, and methods and practices the working value of which has been demonstrated. A brief summary of the recommendations of these commissions follows:

Religious Work Commission.—This commission recommended that the best techniques of the various successful religious activities be brought to the attention of all of the associations; that special efforts be made to integrate spiritual values into all of the program activities; that the best type of counsellors and leaders be secured; and that special days—holidays, Sundays, etc.—be utilized for programs with a religious emphasis.

Program Advance Commission.—Among the several recommendations are the following: That once a year, at least, the regular board meetings be devoted to an interesting and informative evaluation of the program; that a study be made of the possibilities of an inter-association luncheon or service club for railroad men, similar to Rotary, Kiwanis, etc.; that the need for clean and efficient building operation be stressed; that more and better use be made of system and national conferences and the Summer Institute; that the programs be adapted to present-day needs, including the development of adult education activities and citizenship discussion groups.

Personnel Commission.—That each association appoint a personnel committee and adopt a personnel policy to improve the status and effectiveness of the employed staff; special attention should be given to the employing of junior secretaries and the continued education and training of the staff.

Membership Commission.—It was recommended that the associations should re-examine and become more

aware of the wide spread of their constituency and attempt to more fully occupy their fields. Attention was also given to the problem of membership dues and international uniform membership campaigns.

Planning Committees and Conference Groups

On Thursday afternoon the conference was divided into five sections, each one meeting separately under the direction of a chairman and a discussion leader. The purpose of these group conferences was to develop recommendations for the enlargement and enrichment of the work of the movement during the next three years. The findings of these conference groups were presented on Friday morning and approved of by the general conference. Space does not permit presenting these findings in full, but brief abstracts follow.

National Transportation Department Relations.—Specific recommendations were made looking toward a closer integration of the Transportation Department with the National Council of the Y. M. C. A. It was recommended, also, that a committee be appointed to study the financing of the Transportation Committee's work and to develop adequate plans for such financing.

Responsible Citizenship.—Because of the basic importance of responsible citizenship in a democracy, recommendations were made looking toward study and discussion of citizenship in the various associations. Educational institutions and other agencies have failed to give specific training and coaching on exactly how to be a responsible citizen and it was recommended that the Railroad Y. M. C. A. pioneer and blaze a trail in this field, as it has so successfully done in other needy and unoccupied fields in the past.

Personal Living in the Modern World.—It was recommended that the entire Y. M. C. A. program should be used as a means to an end, rather than as an end in itself, and that the associations should correlate their Christian ideals with every type of activity.

Effective Programs for Railroad Y. M. C. A.'s—Among the recommendations was that of launching a full-fledged program in adult education by making a careful selection of those activities which will lead to the development of a progressive and widening program in the interests and needs of the membership. It was recommended that in the field of religious work, the program should be definitely for the development of a Christian man in a Christian society. Emphasis was placed upon the development of lay leadership and a more critical examination of the program of each association, adding activities of real merit and discarding those of less definite value.

Christian Solutions to Problems Facing the Transportation Industry.—That part of the recommendations relating to relations between men and management was quoted under the head of Conference Findings in the article on Obligations of Labor and Capital, which appeared in the *Railway Age* of November 19, 1938. Emphasis was also placed on the possibilities in the field of adult education.

Adult Education Emphasized

That part of the address by Sir Edward Beatty relating to the obligations of labor and capital, was published in the *Railway Age* of November 19, 1938, page 736. In the earlier part of his address, however, he made specific suggestions concerning the broadening of the program of the Railroad Y. M. C. A., including emphasis upon adult education. That part of his address follows.

"The steady progress of Christian civilization has im-

proved the physical surroundings in which the workers of our nation live. It has given them access to comforts and material privileges which their fathers never foresaw. It has done far more. It has improved the whole moral structure of our society. To me, the important lesson which we might learn from contemplating the origin and history of this institution (Y. M. C. A.) is not that we have reached, or ever shall reach, the period in our social development when an organization of this sort will not be needed. It is rather that this organization must continue, as it has been doing, to alter and adapt its methods to suit the changing conditions of our times.

"There is no longer acute necessity of providing living for a shifting population of young men. There always will be some of this, and it is my very real hope that the 'Y' will never forget the original purpose for which it was instituted. The real need today, however, is to expand its activities in the direction of organized recreation, of providing a center for community life, and above all, of encouraging and aiding in that great system of adult education which we see being created around us.

"There was a time when education was supposed to be a process which ceased automatically when a child left school. A few more fortunate of the wealthier class might proceed to higher grades of education in high school or university. It has dawned on us that, after all, education is not a process which we can stop. The human brain continues to absorb new impressions and develop new ideas until it ceases to function actively. The education of a human being ceases when he dies.

"We have only recently begun to appreciate this truth in its full implications, and to realize that the real task of education is not to bring children to the last grade of the common school, or even to carry them through high school. We have come to learn that even the enormous expansion of the number of our children who will actually obtain the benefits of university education is not enough. The real educational problem is to provide that the whole of our people shall, throughout their lives, be able to carry on the education which is automatically lifelong, with the assistance of skilled teachers and proper facilities.

"The whole question of adult education is one far too extensive for me to attempt to discuss in these short remarks. All that I can do is to remind you that it is no longer a question of whether we are to apply this plan to continuing the education of all our people throughout their lives. The decision has been taken automatically and by general consent. All that remains for us is to consider what facilities are available for this purpose.

"It seems to me that the 'Y' has here an opportunity as great and as impressive as that which faced it when it first undertook the task of meeting the problems presented in the early days of railroading on this Continent. I recommend to you serious consideration of how your work may be directed in this field, and urge on you to remember that there lies before you an opportunity even greater than that which your predecessors seized and used so long ago.

"In common with every railway executive on this Continent, I am a profound believer in the lasting value of the Railroad 'Y.' I have seen and watched with close attention and great interest the work which it has done. I see it now adapting its efforts to meet the changed conditions of our times. I am as confident of its future success as I am certain that it did its work well in the past. It has been a great privilege to be given this opportunity to testify my own appreciation of its past value, and to wish it permanent and lasting success in the future."

For the first time in the history of these triennial conferences a woman made an address. More than that, to Miss Avis Lobdell, special representative to the president of the Union Pacific Railroad, belongs the honor of making the opening address of the Toronto conference.

In speaking on "Starting a Revolution," Miss Lobdell traced the history of the railroads from the beginning to the time in the 20's when the development of the automobile reached a point where it furnished formidable competition. She gave credit to Averill Harriman, chairman of the Union Pacific, for the vision to produce the light-weight, streamlined train which was completed in the early part of 1934. It caught the public fancy and became extremely popular, but it only helped to solve part of the problem.

Extensive research and much travel on trains developed the fact that passengers wanted four things: speed, safety, economy and comfort. This led to the development of the Challenger service, which includes three meals a day for 90 cents, uniformed porters for day coaches, free pillows in day coaches, free cups for drinking water, a special day coach for women, and then the education of the train crews to understand that the trains are run for the benefit of the passengers and not the convenience of the crews.

The service, introduced during the summer of 1935, proved so satisfactory that it was decided to extend it beyond the summer period to an all-year-round service. To make it still more attractive, registered nurses were added and soon a second women's coach was required for the train. In the following year, 1936, special attention was given to interior decoration and furnishings. In 1937 streamlined coaches were built for this popular priced train and it now carries three air-conditioned tourist cars; indeed, more of such cars could be used if the equipment was available. The train has become the most popular one on the Union Pacific System and indicates the appreciation of the public for the real service.

Canada's Railroad Problem

At the Wednesday evening session C. E. Howe, Minister of Transport of the Dominion of Canada, spoke on "Transportation Problems from the Viewpoint of Government." Mr. Howe traced the history of the Canadian railways from the beginning. The railroads of Canada, like those in the United States, have suffered severely during the depression and, likewise, have felt severely the competition of other types of common carriers. One remedy which was suggested was that either the government do away with the regulation of the railways, or extend government regulation to all transport. The first solution is unsatisfactory and the second impossible, because while the railways come under federal jurisdiction, highways are under the jurisdiction of the nine provincial governments.

Attention has more recently been given to the "agreed charges" by the railways. Under the agreed charges provision the railways are permitted to contract with the shipper for all or a substantial part of his business at a rate lower than the standard tariff. This was a privilege open to unregulated carriers in any event, but denied to the railways. Under existing rules the handicap of the railway has been that even though it might be able and willing to lower its rate to hold business or to attract business, it could have no guarantee that even the lower rate would prevent the business from going to a competing form of transportation which could, at a later date, again underbid the railway. Under the agreed charge system, if the railway makes a substantially low

rate to hold or to attract business, that business can be secured by a firm contract between the railway and the shipper covering a year or more.

The Canadian government has decided that it can best give equality of opportunity to compete by extending regulation to aircraft and to waterways and to give all regulated carriers the right to make agreed charges. It is obvious that the right to make such charges must be safeguarded in the public interest. Provision was made that all agreements must be public documents and approved by the Bureau of Transport Commissioners. An agreement offered to one shipper must be available to any other shipper in substantially similar circumstances. An agreement will not receive the approval of the Transport Board if it can be shown that it will result in discrimination as between competing shippers. Due publicity must be given to interested parties of a public hearing prior to approval of any agreed charge. Because of the reorganizing of the Railway Board, the new act is not yet in full operation. "In any event," said Mr. Howe, "agreed charge contracts will be developed slowly and with caution."

Mr. Howe presented statistics as to the amount of money spent by Canada on its highways and waterways, pointing out that "we in Canada are too willing to dwell on the cost to the taxpayer of railway transportation, and too anxious to forget the cost to the taxpayer of competing forms of transportation."

J. E. Sproul's Summary

J. E. Sproul, of the National Council of the Y. M. C. A. closed the business session of the conference with an address on "The Discussion of Advance." He enlarged upon the fact that there has been a fundamental shift in the attitude of people toward leisure. Today it is accepted as a positive element in the culture; as the right of everybody, not simply the few; and as the opportunity for a great variety of activity designed to enhance public life, civic life, our pursuit of the arts and all the other things of that character. Another fundamental change of long time character is the growth of organization or group life as a major characteristic of our civilization. A third aspect which must be considered in the work of the Railroad Y. M. C. A. is that "we are in the midst of a fresh burst of energy and creativity in the field of religion. Then, too, we have all become aware of the nearness of large scale social and economic problems to ordinary individuals."

In light of these things, Mr. Sproul made several suggestions, including the following:

That in the years that are just ahead, we shall need to continue to identify our organization with the transportation industry as we now do, but we shall need at the same time to be finding our place in the life of our communities.

That the transportation associations not only build up their solidarity, but become more and more a part of the total Y. M. C. A.

The movement faces the continued problem of adaptation and strengthening of the program activities, including the development of adult education, particularly for young adults; the development of religious aspects; the development of specific activities in the field of citizenship education, and enhancement of our contribution in the field of industrial relations.

Continued effort must be exerted in the field of personnel, to establish sound policies, appoint personnel committees where needed, and set reasonable standards for the professional and the non-professional personnel workers of the Railroad "Y."

Nit League Has Spirited Parley in N. Y.

APPPOINTMENT of a special committee on the railroad situation, a general expression of opposition to present trends in rate making for common carriers by highway, and the register of votes to oppose the so-called Splawn proposal for reorganization of the Interstate Commerce Commission were among the most important actions taken by the National Industrial Traffic League at its 31st annual meeting, held in New York November 17-18. The league, which is an association of about 635 representatives of shippers and receivers of freight and commercial associations, also heard a talk by James F. Bell, chairman of the board of directors, General Mills, Inc., entitled "Whose Problem Is Transportation," in which the speaker urged that the customers of transportation assume the burden of the transportation problem and particularly that of keeping the railroads solvent under private ownership.

Mr. Bell, who spoke at the annual luncheon on November 17, traced the development of transportation facilities from pioneer days when there was too little of them to the present time when there is a superfluity; "too much has become a greater hardship than too little." The speaker declared that unless some immediate relief is given, rail transport will soon be taken over by the federal government, and, since "no governmental activity would endure competition and government alone has the power to disregard its own laws in the creation of monopolies by the destruction or confiscating of competing agencies," he believed that government ownership of all the forms of transportation would soon follow. Using its ownership of transport facilities as an opening wedge, government would, in the speaker's opinion, eventually bring about "the transfer to federal ownership of those enterprises dependent upon rail transportation," since political control would mean the shifting of economic advantages into areas of greatest political strength.

Believing that the average citizen does not appreciate the implications of government ownership of the railroads, Mr. Bell urged that a campaign of education be initiated. Being of the opinion that railroad management, security and equity holders and governmental agencies have failed to find anything approaching a permanent cure for railroad ills—the first prerequisite to enlisting public support—the speaker was of the opinion that those who originate the tonnage on which the railroads live are the likely group to do the job, because, among other things, they have wide contacts, are in particularly close touch with the railroads, and "have much more at stake than anybody else."

Coming to the question of railroad finances, Mr. Bell inveighed against any proposal that the carriers enlarge their indebtedness or borrow their way back to prosperity. In his opinion, "the immediate problem of the railroads was exactly like the problem of several other business enterprises; current operation must show sufficient profit to justify investment," and he asked his audience to recognize "that the first essential now is to enable them to carry on their current business at a profit reasonably commensurate with their volume of traffic." Whereupon, he stated that to restore the railroads to a basis of operation which would win public confidence and support might mean higher rates, but warned shippers that upon granting such increases, immediate relief ought to be followed by "a real thorough-going house-cleaning." As he expressed it, "The patient needs a shot in the arm to keep him from dying, but he has had such treatment

before. This time he needs not only the stimulus but a change in his manner of living."

Pointing out that government subsidy of competitive forms of transportation constitutes in effect the granting of higher rates to its competitors paid by the public out of taxes, Mr. Bell declared that the public must equalize the competition, either directly, by granting higher rates to the railroads, or indirectly by granting them subsidies as their competitors. The whole question of rates, he believed, is one of inter-relationship; that the major users of transportation are far less interested in the lowering of rates than in their fair inter-relationship. The vitally important thing, he said, is that there should be a fair relationship of rates as between localities in order that competing goods should move on an equitable basis. To carry out his views, Mr. Bell urged that a program for transportation be formulated by representatives of the eight major shipping groups—lumber, coal and petroleum products, perishable agricultural products, non-perishable agricultural products, iron and steel; and automotive equipment. He would have this group: (1) adopt some plan which would tide us over the present crisis and restore the railroads to a basis of proper operation; and (2) work for the education of public opinion to a point where permissive measures would be granted by the body politic, replacing restrictions which now stand in the way of constructive action. Such a group, he maintained, would have the support of security holders and, as the originators of tonnage, would have ample persuasive power with railroad management. As he summed it up informally, "The transportation problem is of greater importance to us [the shippers] than to the transportation industry itself."

The chief action of the league at its morning session on November 17 was to appoint a special committee on the railroad situation under the chairmanship of W. H. Day, manager of the transportation board of the Boston (Mass.) Chamber of Commerce. This committee was created by the executive committee at its two-day preliminary session and was characterized by officers of the league as comprising the most influential members of the league. In connection with its formation, it was asked that the committee be given rather broad powers so that it might act forcefully during legislative crises of the next few months.

The railroad legislative program, as outlined by the Association of American Railroads earlier this year, was then considered point by point. The members approved the following measures: (1) Loans to railroads; (2) repeal of land grant statutes; (3) withdrawal of the government from the Federal Barge Line as soon as a buyer could be found, as is provided by the charter of the Barge Line; (4) tax relief measures; (5) credit for railroad unemployment insurance taxes to the extent of employee dismissal allowance actually paid; (6) amendment of the Clayton Act; and (7) amendment of the laws authorizing the appearance of government officers in rate cases.

The league voted its opposition to the proposed revision of the rate making rule. The committee was especially opposed to the A. A. R. proposal to force the commission to so fix rates as to provide a return as provided by law. The league took no further action on the proposal for regulation of water transportation, as its opposition is clearly established, and was non-committal on the question of consolidation or labor legislation, feeling that the league might well steer clear of the latter issue at the present time. No action was recommended with regard to the proposal for changes in reparation provisions, as shippers generally would oppose the proposal.

The question of repealing the long-and-short-haul provision of the Fourth section evoked a heated discussion, in which it was moved, on the one hand, that the league reverse its present stand in favor of repeal of the clause, and, on the other, that the league continue its stand in support of the measure. Other members urged that the league cease taking any stand on the matter, as being too controversial. Voting on a series of conflicting motions, the membership finally approved the committee's report by a vote of 95 to 28, which was, in effect, a progress report.

The league adopted the recommendation of its sub-committee on reorganization of the executive departments of the federal government that it disapprove the so-called Splawn proposals for division of the Interstate Commerce Commission into three separate divisions, each having powers not applicable to the whole commission, and the creation of a Federal Transportation Authority.

To deal with problems of highway transportation, the league membership voted for the appointment of a highway transportation policy committee and approved the position which the highway transportation committee has taken with respect to rates for motor carriers; i. e., that the rates of motor trucks should be based upon the cost of efficient operation and other conditions peculiar to motor carrier operation, without regard to the conditions in any other branch of the transportation industry.

Toward the close of its meeting the league approved the following resolution: "Whereas, it is the view of the National Industrial Traffic League that there is an imperative need for the railroads of the country to acquire a better understanding of the specific transportation problems of shipper industries under the changed conditions which have been brought about through improved facilities and methods for handling commerce by other agencies, and for more intelligent effort on the part of the railroads to adjust their rates and services to meet the requirements of such industries; therefore, be it resolved that the special committee on the railroad situation be authorized and directed to communicate to the representatives of the railroads the views here expressed and stress the necessity for more thorough analysis and sympathetic efforts along such lines." This action gave rise to a rather general airing of views on the railroads—not entirely complimentary either.

The proposed McNary bill to bring carriers performing pick-up and delivery service for the railroads under the Motor Carrier Act was vigorously opposed, together with the proposal to limit the right of practice before administrative tribunals to licensed attorneys-at-law. The league also went on record as continuing its opposition to all so-called "make work" bills.

The special committee appointed for consideration of car spotting charges, as provided for in Ex Parte 104, Part 2, rendered a progress report, enumerating important court decisions of the past year on the matter and stated that it "expects from time to time to confer with the carriers and probably with the commission in the interest of preserving the principle of a single factor freight rate covering terminal and road-haul services and opposing the imposition of spotting charges." In discussion of the committee's report, several members expressed the desire that definite action be taken as soon as possible, since, as traffic managers, they would have to decide upon new shipping policies for their respective plants to provide for any additional restrictions in switching at industrial tracks by the carriers. The committee promised speedy action so that the railroads "might keep the business they have always had."

The league re-affirmed its stand on liberalization of Rule 10 to the effect that the charges on a car for a

mixed carload should be based on the actual weight at the applicable carload rates on the commodities in the car, any deficit in the carload minimum weight to be made up on the weight of the lowest rated article in the car. This proposal, it was stated, has been rejected by the carriers' traffic committees, but may be considered again, at which time the league's committee will seek definite action. It was also voted that the group oppose the proposed increase of the minimum l. c. l. charge from 55 cents to one dollar and offer a compromise proposal that a minimum charge of 75 cents be established. The passenger traffic committee recommended that it be authorized to confer with the Eastern roads to procure for general application the established merit of round-trip fares on a basis somewhat lower than double the one-way fare rate. This was approved.

That the league go on record as opposing the granting of relief from the aggregate-of-intermediates provision of the Fourth section and that it take appropriate action in connection with the Fourth section application now pending, involving rates between Official and Western trunk line territories was the recommendation of the rate construction and tariff committee. This was approved by the membership.

C. W. Braden, general traffic manager, National Distillers Products Corporation, was re-elected president of the league and J. E. Bryan, general traffic manager, Wisconsin Paper & Pulp Manufacturers' Traffic Association, was elected vice-president. R. W. Campbell, manager, traffic department, Butler Paper Corporation, was re-elected treasurer.

Motor Cars by Rail in Hungary

THE Hungarian State Railways have been making a special campaign for several years to induce motorists to ship their motor cars by train. As the result of designing special cars for this purpose, they have been successful in quoting low rates which attract much of this business. These cars carry their own collapsible ramps, so that cars can be driven on and off at any point without loading or unloading platforms. Since local conditions may make it necessary for the auto to be unloaded through either the side or end doors, a turntable built inside the car permits the auto to be so maneuvered after loading as to make it ready for either type of unloading that may be required.

These cars have been converted from ordinary baggage

cars. One end has a simple hinged ramp that can rest on a platform and form a bridge at stations where platforms for end loading are situated. The other end of the car has a similar ramp, with two hinged extension pieces which, with the ramp, form an inclined plane 21 ft. long, up which autos can be driven from the rail level to the car, where platforms are not available. Steam heat is provided to prevent the autos from freezing. A car holds two automobiles, with a maximum length of 20 ft. each. Special precautions are taken against fire; the ventilators are covered with a fine mesh wire screen to keep out sparks and the doors and windows are equipped with baffles for the same purpose.

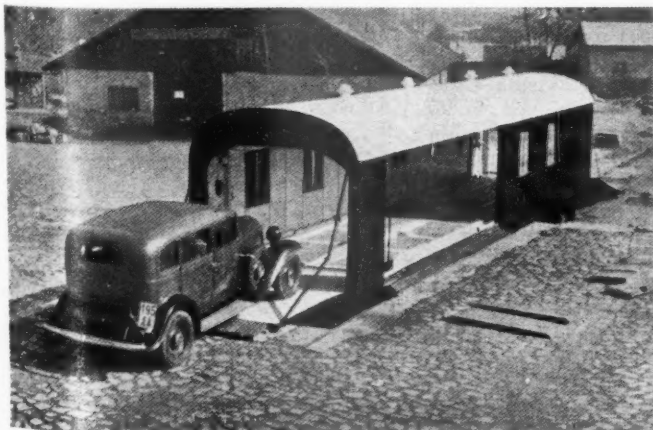
New Books...

The Model Railroader Cyclopaedia. 111 pages and 20 plates. 10 in. by 7 in. Bound in paper, \$1.50; cloth, \$2.00. Published by the Modelmaker Corp., Wauwatosa, Wis.

The third edition of a cyclopedia for model railroad devotees patterned on rolling stock cyclopedias published for standard railroad use, this book represents an enlargement and modernization of the first two issues. Photographs and complete plans of the more recent standard railroad "prototypes" have been added, expanding the volume from 79 to 111 pages and a great many more "accessories," such as switches, bumpers, shanties, etc., are included to aid in the construction of the more detailed model lay-outs.

Manual of Ordinances and Requirements in the Interest of Air Pollution, Smoke Elimination, Fuel Combustion. Published under the auspices of the Smoke Prevention Association, City Hall Square building, Chicago. Price, 50 cents.

In addition to the prepared papers which were read before the thirty-second annual convention of the Smoke Prevention Association held at Nashville, Tenn., May 17-20, 1938, the manual contains a large amount of information pertaining to smoke prevention, methods of grading the density of smoke emission and dust fall, as well as the methods of analysis for oxides of sulphur, a digest of smoke ordinances of 80 cities and smoke districts and instructions for proper firing of various types of furnaces and fuels. Most of the data pertain to heating installations and stationary power plants. In the proceedings of the recent meeting of the association, however, are several papers bearing on railway smoke prevention. These are: Selection of Fuel for Use on Railroad Locomotives, by John C. Lewis, road foreman of engines, R. F. & P.; Elimination of Smoke by Proper Handling and Firing of Steam Locomotives, by J. P. Morris, mechanical superintendent, A. T. & S. F., and What the Locomotive Brick Arch Does Towards Smoke Prevention and Fuel Conservation, by Thomas F. Kilcoyne, American Arch Company.



The Hungarian State Railways Have Worked Out an Ingenious System for Transporting the Automobiles of Their Passengers

NEWS

Canadian Unions To Study Merger

Beatty foresees combination as unavoidable, urges labor prepare for it

The proposed unification of the Canadian National and Canadian Pacific will be discussed at a meeting of the general chairmen of the standard railway labor organizations to be held January 8 in either Montreal or Ottawa.

The stand of the unions up to the present time has been that unification would necessarily throw a large number of men out of work, and that it would not be feasible to devise a plan to compensate those who lost their jobs. Others among union leaders have held that no explanation has yet been forthcoming as to how estimated savings of \$75,000,000 per year could be shown in view of the fact the annual fixed charges of the Canadian National are \$54,000,000.

There is now, however, believed to be a growing feeling in railway labor circles that the seriousness of the railway situation is such that some action must be taken. Some union members are reported to have accepted the view of Sir Edward Beatty that "unification is inevitable."

In his letter to the employees Sir Edward said, among other things: If provision is to be made for the protection of labor under unification of the two Canadian railways, the initiative in undertaking the study of how this protection can be provided must come from the employees. In urging railway labor to take such steps, the railway president said "the financial strain on the national Treasury has reached a point where public opinion will unquestionably demand a solution of the problem. My own solution, the only one which I can see, is unified management."

"In evidence before a Special Committee of the Senate of Canada, sitting last spring, I showed that, in the first place, the statements which are circulated, to the effect that unified management would involve the displacement from employment of 25,000 or 30,000 men, are entirely incorrect. As I told the Senate Committee: 'I may point out the arithmetical fact that the annual turnover of railway labor on the Canadian Pacific is almost 5 per cent. Each year almost 5 per cent of our employees die, retire, seek other employment, or leave the service for other reasons. The total savings of labor under unification are estimated at 15 per cent to 17 per cent.

Thus, assuming that the labor situation on the Canadian National is approximately the same as on the Canadian Pacific, we can see that, in the five years at least, which will be required to accomplish unification, a policy of not hiring additional workers would reduce the staffs of the two railway systems more than the savings of unification would involve.

"My own feeling is very strong that, whether you like unification or whether, like myself, and all the officers of the Canadian Pacific, you regard it as unfortunate that we must have it, but understand that it must come, the wise program would be, in the interest of all parties concerned, for you to study how it can be accomplished, while full protection of the interest of labor is maintained."

Mississippi Intrastate Rates

The Interstate Commerce Commission in a report by Commissioner Mahaffie has found that the refusal of the Mississippi Public Service Commission to permit railroads to apply the Ex Parte 123 increases to intrastate rates on fertilizer and fertilizer materials and sand and gravel results in undue prejudice against interstate shippers and localities and unjust discrimination against interstate commerce. No such prejudice or discrimination was found to result from the maintenance of presently-prescribed intrastate rates on certain other commodities, including brick.

Chairman Splawn and Commissioner Rogers dissented in part, while Commissioners Miller and Caskie did not participate in the disposition of the proceeding.

October Gross 6.1 Per Cent Under Last Year

Preliminary reports from 92 Class I railroads, representing 82.3 per cent of the total operating revenues, made public today by the Association of American Railroads, show that those roads, in October, had estimated operating revenues amounting to \$287,915,128 compared with \$306,731,524 in October, 1937, and \$395,552,567 in the same month of 1930. The October gross was 6.1 per cent below October, 1937, and 27.2 per cent below October, 1930.

Freight revenues of the 92 roads in October, amounted to \$237,355,480 compared with \$250,632,926 in October, 1937, and \$316,312,115 in October, 1930—5.3 per cent below the former, and 25.0 per cent below the same month in 1930. October passenger revenues totaled \$26,788,699 compared with \$30,412,727 in October, 1937, and \$44,848,514 in October, 1930—11.9 per cent below the former, and 40.3 per cent below the same month in 1930.

Transport Clinic Finds R. R. Ills

Second meeting of C. of C. group takes definite stand on several questions

Resuming its deliberations after a recess from the September 14-15 meeting, the Transportation Conference of 1938, called under the auspices of the Chamber of Commerce of the United States, held its second meeting in Washington, D. C., on November 21 and 22 and adopted resolutions dealing with the financial reorganization of carriers, relief from burdens and restrictions, and consolidation, coordination and abandonment. George H. Davis, president of the Chamber, acted as chairman of the conference and a committee consisting of Arthur M. Hill, president of the Atlantic Greyhound Corporation; Charles Donley, president of the National Association of Advisory Boards, and J. J. Pelley, president of the Association of American Railroads, met the press after the morning and afternoon sessions and explained the action of the conference on each subject.

The resolution dealing with financial reorganizations contained the following language: "To facilitate reorganizations there should be legislation to permit a carrier and its stockholders and creditors to secure approval by the Interstate Commerce Commission of an agreed plan of reorganization which, when so approved, may be made promptly effective against small minority interests by a bankruptcy court, without the appointment of a trustee." The cases of the Lehigh Valley and the Baltimore & Ohio, both of which are now negotiating with their security holders to effect voluntary reorganizations, were cited by the spokesmen as examples of what might be accomplished by the enactment of a new law on this subject. Asked what constituted a "small minority," the spokesmen said that while no specific percentage had been agreed upon, it was generally assumed that if two-thirds of each class of security holders agreed to a plan, it might then be enforced against the remaining third.

In the category of relief from burdens and restrictions the conference agreed upon the following resolutions:

1. That the land-grant statutes should be repealed;
 2. That railroads should be relieved of the expense, in excess of net direct bene-
- (Continued on page 790)

Nystrom Honored by St. Louis Assn.

Car department men present
plaque in appreciation of
outstanding service

A bronze plaque containing the inscription "For His Outstanding Contribution to the Science and Art of Design and Maintenance of Railroad Rolling Stock" was presented to K. F. Nystrom, mechanical assistant to vice-president, Chicago, Milwaukee, St. Paul & Pacific, by the Car Department Association of St. Louis at a meeting held Tuesday evening, November 15, at the Hotel Mayfair, St. Louis, Mo. The presentation was made following an address by Mr. Nystrom on "Master Car Builders" before about 280 members and guests of the association, including a group of car-department officers from Chicago.

In discussing his subject, Mr. Nystrom said that the master car builder or car-department supervisor must be a competent director, teacher, employer and builder of men. He said that car supervisors must accept, whether they like it or not, the responsibility for the safety, reliability and maintenance of rolling stock and that with this great responsibility goes the proportionate privilege of insisting upon acquiring the best equipment science and good workmanship can produce.

As regards the future, Mr. Nystrom said "I am convinced, that at no time in railroad history was there such great opportunity for improvement and advancement as at present. During the period of depression since 1929, considerable changes have been made in practices and railroad operation. We are doing things today which, ten years ago, we would have said could not be done. We have eliminated repair tracks and inspection points, and reduced forces in greater proportion than traffic has been reduced, and at the same time, we have a better operation. At present, we have fewer hot boxes, fewer equipment failures and fewer accidents than we had ten years ago. This is an achievement in which we can take some comfort, but there are many problems which we must solve, as the speed of our trains is constantly increasing, and we have not yet reached the limit. Therefore, when anything goes wrong with the railroad machine, the damage is far more costly than in former days." Among other items which present the possibility and need for still further improvement, Mr. Nystrom mentioned trucks, brake rigging, couplers and draft gears, and box-car interiors designed so that they can be kept at all times "as sanitary as a modern warehouse."

1938 Mechanical Division Letter Ballot Results

In Circular No. DV-940, issued under date of November 8, by the Association of American Railroads, Mechanical division, the results of the letter ballots on commendations of various committees reporting to the meeting of the General Committee at Chicago on June 29, 1938, are

given in detail, a total of 78 individual propositions being involved. As a result of a favorable letter ballot all of these propositions to amend the standard and recommended practice of the division are approved effective March 1, 1939; with the exception of Propositions 4 (a) to 4 (aa), inclusive, covering definitions and designating letters which are approved effective immediately; and with the further exception of Propositions 9 to 55, inclusive, to amend the loading rules of the division which are approved effective February 1, 1939.

Acetylene Association Meets in Houston

The International Acetylene Association will hold its thirty-ninth convention in Houston, Tex., on March 8-10, with headquarters at the Rice Hotel. A program will be presented covering the more important developments in the application of the oxy-acetylene process to welding and cutting problems.

Fan Trip Over W. B. & E.

The Erie will operate a "farewell inspection tour" over the soon-to-be abandoned Wilkes-Barre & Eastern on Sunday, December 4, out of New York and its Jersey City, N. J., terminal. The tour is routed westward via the New York, Susquehanna & Western to Stroudsburg, Pa., thence via the W. B. & E. and Susquehanna Connecting to Avoca and return to Jersey City via the Erie & Wyoming Valley line to Lackawaxen and the Erie Main line.

B. & O. Scraps Relay Station

The Baltimore & Ohio has permanently closed its 108-year old station at Relay, Md. Built in 1830 as a half-way point on the 13-mile line from Baltimore to Elliott's Mills where the horses which then drew the cars were changed by the substitution of fresh "relays," the station has subsequently been used as a hotel point, Civil War troop concentration camp and general passenger "depot." It is near the site of the B. & O.'s Thomas viaduct, the oldest multi-arch railroad bridge in the world, still in operation.

October Locomotive Shipments

October shipments of railroad locomotives totaled 10, as compared with three in September and 61 in October, 1937, according to reports received by the Bureau of the Census, United States Department of Commerce, from the country's principal manufacturing plants. The 10-months total for 1938 was 232 as compared with 410 last year.

All 10 locomotives shipped in October were for domestic service, and included six steam and four Diesel-electrics. October, 1937's 61 included 46 steam and 15 Diesel-electrics, likewise all for domestic service. Unfilled orders at the end of October totaled 82 locomotives, including 11 steam, 20 electrics and 42 Diesel-electrics for domestic service and four steam and five Diesel-electrics for export. The statement carries the usual notation that the data does not include locomotives built in railroad shops, or "self-propelled cars of any description."

Wheeler Asks Loan To Tidy Up Roads

Senator cites bills to free federal funds for rehabilitation;
asks revamp plan

Announcing that he has prepared two bills for presentation to Congress,—one to provide federal loans to the railroads for expenditures on physical plant, the other to provide standards for financial reorganizations—Senator Burton K. Wheeler of Montana, chairman of the Senate committees on interstate commerce and railroad finance, outlined a program for the relief and assistance of railroads, at the fourteenth New England Conference held November 17 and 18 at Boston, Mass., under the auspices of the New England Council. Citing Interstate Commerce Commission surveys to the effect that the carriers are some \$500,000,000 behind on their expenditures for maintaining their properties in good condition, the speaker deplored the fact that such neglect makes their transportation service less efficient, impairs the value of the properties to their owners, and checks the flow of expenditures for wages and to other industries for materials and services. Since the investing public will not afford the necessary funds to the weaker roads, which need them the most, the government must become the loaning party, he asserted.

"But there must be safeguards before the government can prudently lend the money. First, the government must have assurance that the money it lends will really go to improve the physical condition of the roads, and not merely to prop up a tottering financial structure, not merely borrowing from Peter to pay Paul, not merely shifting the bondholders' problem to the shoulders of the taxpayers. Government loans should have the positive purpose and effect of protecting the physical machine. . . . The government must have assurance that it will get its money back. Some roads are today not in a position to give the government adequate security for loans large enough to enable them to avoid both receivership and physical deterioration of their property. Strangely enough, this is true only of those weak roads which are not in receivership. As to roads in trusteeship or receivership, a well-established rule of law authorizes the borrowing of money for necessary maintenance and repairs, with a provision for repayment to the lender before other creditors are paid. But railroads not in trusteeship or receivership cannot give such assurances of prior repayment. Hence we are faced with the strange fact that, under existing law, railroads in receivership, are better able to borrow money to maintain their physical condition, than weak railroads not in receivership.

"To end this unfortunate situation, I have prepared a bill on which I hope to confer with other government authorities especially interested in the subject. This bill would give railroads the power to borrow money from the government, on terms which will insure repayment. This would

give all railroads, the important privilege now reserved for railroads in receivership—the privilege of granting a prior lien for new money borrowed for necessary purposes."

Meeting possible objections to such a course, the Senator declared that bondholders would gain more through the added value and efficiency of their properties than they would lose in granting the government a prior lien to the extent of its loans, and that consultation with government experts has led him to believe that, "with the proper judicial safeguards," such a law would be constitutional.

Asserting that the times also call for financial as well as physical rehabilitation, the speaker announced that he has prepared a bill which provides standards for railroad reorganizations, including provisions for expediting the procedure of such reorganizations and "to loosen the unjust grip given to holding companies under the present reorganization statute." In explanation, he said: "Constructive legislation would help reorganizers to effect sound reorganizations. Congress can set up realistic and scientific standards and require that reorganizations shall conform to such standards. This would help to free our railroads from financial strait-jackets and, at the same time, would give recognition to all proper claims of railroad security holders."

Senator Wheeler had several additional suggestions to offer. He urged the elimination of "losses and wastes which have drained railroad treasuries in the past," in illustration of which he cited the "financial error" of railroad buying of shares of stock of other companies at a loss. In this connection, he believed that "a thorough house-cleaning" by the railroads themselves, either individually or in association, is much needed. A second suggestion was that the "rich roads . . . voluntarily give up any unjust advantage they have been enjoying at the expense of the weaker roads." Here the Senator referred to testimony rendered before the Senate committee investigating railroad finance in which officers of several roads "complained of the treatment the weaker roads in the middle west were receiving at the hands of the more powerful railroad companies," especially with respect to division of rates and rentals on refrigerator and tank cars.

Jeffers Speaks at National Press Club

W. M. Jeffers, president of the Union Pacific, discussed "The Railroad Problem" in an "off-the-record" address at a luncheon in the National Press Club, Washington, D. C., on November 21.

Status of "Red Caps"

The International Brotherhood of Red Caps has asked the Interstate Commerce Commission to bring "red caps" employed in cities of under 100,000 population within the term "employee" as used in fifth paragraph of the Railway Labor Act's section 1. As noted in the *Railway Age* of October 15, Division 5's order in the case involving the status of "red caps" and other station attendants with similar duties applies only to those located in cities of over

100,000 population; but the report said that "there is no apparent reason why the work performed at smaller cities should be treated any differently."

Annual Reports of Class III Roads and Water Carriers

The Interstate Commerce Commission, Division 4, has issued an order requiring Class III railroads subject to the Interstate Commerce Act to file annual reports in accordance with Annual Report Form C (Small Roads), which form was approved and made a part of the order. The new order, in the Matter of Annual Reports from Steam Railways of Class III, annuls a previous one, dated November 13, 1937, and becomes effective with the filing of annual reports for this year. A similar order prescribes, for water carriers subject to the act, Annual Report Form K (Carriers by Water).

Carrier Not Responsible for Track Wayfarers

The law of the State of Pennsylvania has been interpreted to hold that a person walking along a pathway on railroad property and parallel to a railroad track is a trespasser and the railroad has no duty to him except to refrain from wanton or willful injury. This principle is expounded in a recent decision of the Second Circuit Court of Appeals in *Tompkins vs. Erie Railroad Co.*, 98 F.2d. 49, which decision has now been upheld by the United States Supreme Court in denying a writ of certiorari. The case involved a boy walking along a path paralleling a railroad track along railroad property which had been in constant use for a long time, resulting in an easily recognized path. The court held that the boy could not recover for injuries sustained by an object projecting from a passing freight train.

Va. Carmen Favor Independent Union, Others Pick A. F. of L.

Labor organizations affiliated with the Railway Employees' Department, American Federation of Labor, won recent elections supervised by the National Mediation Board on the Long Island and the Washington Terminal while the Brotherhood of Railroad Shop Crafts of America, Virginian System, was chosen in a third contest by the Virginian's carmen (including coach cleaners), their helpers and apprentices.

As a result of the election on the Long Island, the International Association of Machinists has been designated to represent machinists while the International Brotherhood of Firemen, Oilers, Helpers, Roundhouse & Railway Shop Laborers was chosen by the power house employees and railway shop laborers. Electrical workers, helpers and apprentices on the Washington Terminal voted to be represented by the International Brotherhood of Electrical Workers.

Practices Affecting Dillonvale Smithfield

The Interstate Commerce Commission has found that the Dillonvale & Smithfield, subsidiary of the United States Coal Com-

pany, is a non-operating railroad company, and that payments made by the New York Central for the use of its line are unreasonable. Commissioner McManamy dissented in part, and Commissioners Miller and Rogers agreed with him. Mr. McManamy agreed with the majority findings, but he does not think they are sufficient to dispose of the proceeding. It is his view that the record contains "important facts" showing "violations of the act which are not set forth in the majority opinion." Commissioner Caskie did not participate in the case.

August Accident Statistics

The Interstate Commerce Commission's completed statistics of steam railway accidents for the month of August, 1938, now in preparation for the printer, will show:

Item	Month of August 1938	August 1937	8 months ended with August 1938	8 months ended with August 1937
Number of train accidents	485	685	3,640	5,886
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	256	320	1,556	1,815
Injured	294	319	1,717	1,882
Passengers on trains:				
(a) In train accidents:				
Killed .....	..	..	44	..
Injured	6	24	293	336
(b) In train-service accidents:				
Killed	2	2	13	8
Injured	183	228	1,249	1,314
Travelers not on trains:				
Killed	1	..	6	8
Injured	75	69	499	513
Employees on duty:				
Killed	44	58	312	459
Injured	1,434	2,255	10,382	16,481
All other nontrespassers:				
Killed	116	167	975	1,269
Injured	341	520	3,466	4,425
Total—All classes of persons:				
Killed	419	547	2,906	3,559
Injured	2,333	3,415	17,606	24,951
* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than \$150 to railway property.				
** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and nontrespassers, were as follows:				
Number of accidents ..	215	300	2,081	2,733
Persons: Killed	99	146	900	1,144
Injured	220	314	2,408	3,090

N. J. Carriers to "Dicker" on Tax Bill

Efforts toward a compromise on payment of the withheld portion of taxes levied by New Jersey on the railroads for 1932 to 1938, inclusive, will be made possible by the adoption of a resolution in the state legislature at Trenton to create a special committee composed of three members from the Assembly and three from the Senate, respectively, to meet with representatives of the five carriers which requested such negotiations "to reach a settlement out of court,"—namely, the Central of New Jersey, the Lehigh Valley, the Lackawanna, the New York Central and the Erie and its subsidiaries. The carriers lost out in their efforts to have payments on levies for 1932 and 1933 reduced by a recent decision of the U. S. circuit court of Appeals at Philadelphia, Pa., upholding the state's assessments. Rather than prolong this litigation by an appeal to the Supreme Court, the roads

have asked for the opportunity to negotiate with representatives of the legislature in an effort to reach a compromise.

The legislative committee of six is to report back to the full body on December 12.

Freight Car Loading

Loading of revenue freight for the week ended November 12, totaled 636,710 cars, a decrease of 36,623 cars or 5.4 per cent below the preceding week, a decrease of 49,216 cars or 7.2 per cent below the corresponding week in 1937 and a decrease of 244,807 cars or 27.8 per cent below the same week in 1930. All commodity classifications except coke showed decreases under last week and all commodity classifications showed decreases under last year. The summary, as compiled by the Car Service Division, Association of American Railroads, follows:

Revenue Freight Car Loading

For Week Ended Saturday, November 12			
Districts	1938	1937	1936
Eastern	132,538	144,799	161,421
Allegheny	114,943	126,418	151,124
Pocahontas ..	48,650	50,278	58,588
Southern	93,893	102,430	110,686
Northwestern ..	81,361	85,035	111,987
Central Western	115,159	119,910	125,660
Southwestern ..	50,166	57,056	65,514
Total Western Districts ...	246,686	262,001	303,161
Total All Roads	636,710	685,926	784,980
Commodities			
Grain and Grain Products ..	32,008	38,296	33,943
Live Stock ..	18,061	18,490	22,618
Coal	128,069	143,820	157,744
Coke	6,375	6,983	11,072
Forest Products	26,846	27,384	34,506
Ore	16,780	17,588	34,780
Merchandise			
L.C.L.	152,202	161,311	167,037
Miscellaneous ..	256,369	272,054	323,280
November 12..	636,710	685,926	784,980
November 5..	673,333	728,765	759,615
October 29 ...	708,840	768,024	814,514
October 22 ...	705,628	770,156	816,242
October 15 ...	726,612	806,095	826,525
Cumulative			
Total, 45 Weeks ..	26,299,886	33,717,174	31,281,750

In Canada.—Carloadings for the week ended November 12 totaled 51,120, as against 53,961 cars for the previous week and 54,597 a year ago, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada		
November 12, 1938 ..	51,120	22,930
November 5, 1938 ...	53,961	23,153
October 29, 1938 ...	57,874	22,634
November 13, 1937 ..	54,597	26,142
Cumulative Totals for Canada:		
November 12, 1938 ..	2,126,975	928,184
November 13, 1937 ..	2,300,178	1,192,257
November 7, 1936 ...	2,139,499	1,045,489

Would Deny "Grandfather-Clause" Rights to C. & N. W.

The Chicago & North Western's tie-up with contract truckers does not suffice to give it the status of a common carrier by motor vehicle, according to Examiner T. M. Hanrahan, who has recommended in a proposed report that the Interstate Commerce Commission deny the road's "grandfather-clause" application for certificates covering operations on 22 routes in Illinois, Iowa, Michigan, Nebraska, South Dakota and Wisconsin.

According to the examiner, the C. & N.

W. based its claim upon "the operations of independent motor carriers," whereas the railroad role in the set-up differs "little, if any, from the so-called indirect motor vehicle operations of the forwarders." An analogous case was before Division 5 on October 26 when it heard oral argument on Examiner Paul R. Naefe's proposed report on similarly-based "grandfather-clause" applications of the Boston & Maine and its affiliate, the Boston & Maine Transportation Company.

Camera Contest Stimulates Travel

Considerable enthusiasm and additional passenger revenues marked the close of a photographic contest conducted by the Chicago & North Western this year to stimulate passenger travel. The contest was open to all persons, the only stipulation being that the contestants submit a picture taken in a territory served by the railroad while using the railroad's trains. The contest was divided into amateur and advanced amateur divisions. Three contests, one in the spring, another in the summer and a third in the fall, were conducted, and the winners of each competed in the "Grand Salon."

The prizes in each division and in each contest were the same,—first prize, \$50; second prize, \$25; third prize, \$10, and with four to eight additional prizes of \$5 each. In the Grand Salon \$100 was awarded to first place, \$50 to second place, and \$25 to third place. The photographs, chiefly of scenic and vacation regions, were displayed in the Chicago Terminal beginning November 12. As a result of the enthusiasm shown, the railroad plans to make the contest an annual affair.

Court Approves Oil Well Contract

The district court of St. Louis, Mo., has authorized the trustees of the Missouri-Illinois, a Missouri Pacific subsidiary, to enter into a contract with the Blackstone Oil Company for drilling five oil wells on the railroad's right of way near Salem, Ill. The court directed that proceeds of the venture to be held in a separate account until the rights of the parties, including three adverse claimants, be determined. The drilling contract was authorized to prevent the oil being drained from the property through wells sunk in adjacent property.

Land Grant Rates

"Facts Regarding Federal Land Grants to the Railroads of the U. S." is the title of a pamphlet which has been prepared by the Research Committee of the Federal Transportation Association. This reformed Washington, D. C., organization calls itself "a society of transportation specialists" and includes among its members many government employees whose duties have to do with government traffic and with transport regulation.

The primary purpose of the pamphlet, its preface says, is to bring to the attention of the public "certain facts" which the "interests desiring repeal of the Land Grant Acts have studiously avoided discussing." The compilers do not guarantee "the absolute accuracy" of all the statistics used,

but do assure the reader that "no effort has been spared to exclude error as far as possible," while "the right perspective has been retained throughout the pages." The discussion closes with "A Three-Point Argument Against Repeal of the Land Grant Acts." These points are that repeal would add to government expenses; it would cause diversions of government traffic from the railroads to competing agencies; and it might mean a reversal of government purchasing policy whereby supplies would be bought at point of delivery instead of f.o.b. factory, thus causing government contractors to advance money for the prepayment of freight charges, and wait for payment of their invoices to get it back.

Club Meetings

The Canadian Railway Club will hold its next meeting on December 12 at the Windsor hotel, Montreal, Que., at 8:15 p. m. A paper entitled "Controlled Locomotive Operation" will be presented by J. L. Bacon, Valve Pilot Corporation, New York.

The next meeting of the Car Foremen's Association of Chicago will be held at 8 p. m., on December 12, at the LaSalle hotel, Chicago. G. J. Conklin, general car foreman, Minneapolis, St. Paul & Sault Ste. Marie, will present a paper entitled "A. A. R. Loading Rules."

The Indianapolis Car Inspection Association will hold its next meeting on December 5, at 7 p. m., at the Hotel Severin, Indianapolis, Ind.

The New England Railroad Club will hold its next meeting on December 13 at the Hotel Touraine, Boston, Mass. Robert Faries, assistant chief engineer, maintenance of way, Pennsylvania, will present a paper entitled "Recent Developments in Maintenance of Way Methods and Practices." The meeting will start with a dinner at 6:30 p. m.

The Central Railway Club of Buffalo will hold its next meeting on December 1, at 8:00 p. m., at the Hotel Statler, Buffalo, N. Y. A paper entitled "Terminal Operation" will be presented by C. P. Fisher, superintendent of terminals, Pennsylvania, Chicago. A program of entertainment has been prepared by Charles M. Bowen, agent, Erie, Castile, N. Y., and the Central Railway Club Chorus. Election of officers for 1939 will be held. The 50th annual dinner of this club will be held on Thursday, January 12, 1939.

The next meeting of the Metropolitan Track Supervisors Club will be held at the Hotel McAlpin, New York, on the afternoon of December 8, following a luncheon at 12 o'clock. The meeting will be addressed by three speakers who will describe the experiences of different railroads in New England during the recent flood and hurricane disaster. They will include A. A. Cross, division engineer, New York, New Haven & Hartford, Hartford, Conn.; H. F. Fifield, engineer maintenance of way, Boston & Maine, Boston, Mass.; and R. D. Garner, chief engineer, Central Vermont, St. Albans, Vt.

The Committee on Railroad Support will meet December 2, in Room 1013, at 466 Lexington Avenue, New York, to

discuss the topic "Public Relations." Reports of similar committees recently organized in Buffalo, N. Y., and Detroit, Mich., will also be presented.

Modernized Capitol Limited Placed in Service

Modernized Pullman cars of the Capitol Limited of the Baltimore & Ohio were placed in service on November 23, after being exhibited at Washington, Baltimore and Chicago. Streamlining is accomplished by extending the side sheets of the cars and curving them under the body, by the replacement of the standard steps with disappearing steps, and by the introduction of metallic closures between the cars, which make the sides continuous. A modern touch is also introduced in the exterior color scheme of royal blue, gray and gold. The interiors of the cars have been done in pastel shades.

At Chicago, ceremonies prior to the departure of the train on November 23 included a luncheon given by the Chicago Association of Commerce, at which Charles F. Kettering, vice-president of the General Motors Corporation, and C. W. Galloway, vice-president in charge of operation and maintenance of the Baltimore and Ohio, were the principal speakers.

Following the luncheon, a group of young ladies prominent in social circles aided in the christening of the train, while more than 1,000 homing pigeons from towns on the B. & O. between Chicago and Washington were released. The pigeons carried messages from the mayor of Chicago to the mayors of the towns from which they came. Pigeons from Washington carried a message to President Roosevelt.

In the celebration at Washington, Tallulah Bankhead, famous actress, smashed the traditional bottle on the nose of the limited's Diesel-electric locomotive as it was about to pull out of that city, while debutantes costumed in the period of 1850 gathered about. The William Mason locomotive of 1856, of the type that handled Lincoln's first inaugural train into the capital city in 1861, was also on hand.

Chilean Decree O. K.'s Higher Rates

The Chilean Ministry of Improvement has issued a decree authorizing the Chilean State Railways to inaugurate widespread increases in passenger fares and freight rates. The decree bases its permission on the continuous rise in the cost of materials, growing operating deficits of the Northern section of the railway system, need for reduction of an existing differential of 25 per cent between freight rates on the Northern and Southern sections and growing competition from highway vehicles.

To meet the latter contingency the decree provides in general for reduction of rates on very short runs and increases for long distances. Fare modifications include increased passenger fares on the Southern section of approximately 10 per cent for distances up to 300 kilometers (186 miles) and sliding scale increases up to 17.5 per cent for longer distances; increases in passenger rates on the Northern section of approximately 15 per cent up to 640 kilo-

meters (397 miles), with increases up to a maximum of 45 per cent for longer distances; and increases of 15 per cent in baggage rates on the Southern section and 20 per cent on the Northern section. Freight rates on shipments consigned by fast freights on the Southern section will be increased 15 per cent up to 60 kilometers (37 miles), the increases rising on a sliding distance scale to 20 per cent at 150 kilometers (93 miles) and 25 per cent at 1,300 kilometers (806 miles). Increases of approximately 35 per cent will be applied on the Northern section. Finally, the decree provides for elimination of a special freight tariff on the Northern section. A special clause indicates that the state system may cancel all or part of these increases in sections where it is found that traffic volume is likely to suffer because of competition from highway transport.

Transport Clinic Finds R. R. Ills

(Continued from page 786)

fits to them for elimination of railroad grade crossings, and for reconstruction of railroad bridges in connection with navigation or flood control projects;

3. That not only carriers but all business should be relieved of the undistributed profits tax;

4. That restrictive measures such as the train-length limit bill, excess crew laws, six-hour-day legislation, etc., should be avoided;

5. That Congress should require the government to dispose of the Federal Barge Line to private parties;

6. And that the Railway Labor Act should be amended—

(a) To include public members in odd numbers on adjustment boards so as to insure disposition of each case in the first instance;

(b) To authorize federal court review of adjustment-board decisions at the instance of the railroads as now allowed employees;

(c) To place a limit upon the time within which claims can be presented.

The conference's statement on consolidation says that "To facilitate consolidation there should be legislation repealing the present requirement as to a comprehensive plan, balanced systems, maintenance of all possible competition and preservation of existing trade channels. The rail carriers should be permitted, subject to approval of the Interstate Commerce Commission, to bring about such voluntary consolidations and coordinations as will result in economies, assure adequate service and preserve reasonable competition."

Mr. Pelley pointed out to the press that the conference pretty generally felt that if the railroads were given the authority to consolidate, they would do it. Mr. Donley said that this resolution of consolidation was proposed by the shippers and farmers section of the conference. Asked as to what the Shippers Advisory Boards thought about a federal agency to force consolidations, he said that they were defi-

nately opposed to any more agencies being set up in Washington to control transportation, and that they were also opposed to any agency being created or given the power to force consolidations at this time.

A resolution was also adopted stating that legislation should be enacted requiring more expeditious disposition of abandonment applications. Spokesmen for the group declined to elaborate on this statement.

Also, on the subject of consolidations the conference adopted a resolution saying that the "power of eminent domain should be given over small minority interests in consolidations approved by the Interstate Commerce Commission."

Those subjects under the titles, Railroad Rate Provisions and Federal Financial Aid, which were detailed in the *Railway Age* for October 29, page 637, were deferred to a later meeting and assigned to subcommittees for further study. The subcommittees will report at a later date, presumably sometime before Christmas. The conference, on November 21, decided to endorse the provision dealing with government loans for new equipment, but at the final meeting on November 22, voted to defer action on it along with the other items listed under Federal Financial Aid. Spokesmen for the conference explained that the delegates were not opposed to financial aid for the carriers, but that they wished to consider the subject in more detail.

Mr. Pelley expressed himself as being "very pleased" with the work of the conference and went on to say that he believed that much good had been accomplished during the two-day meeting. The subcommittees will report to the advisory committee, which, in turn, will set a date for the next meeting of the conference.

Proposed Reports on Motor Carrier Applications

Examiner John S. Higgins of the Bureau of Motor Carriers' Section of Finance has recommended in a proposed report that the Interstate Commerce Commission approve, subject to conditions, the purchase by the Rock Island Motor Transit Company, affiliate of the Chicago, Rock Island & Pacific of the Inter-State Express Company's truck-operating rights on routes between Kansas City, Mo., and Atchison, Kan., 52 miles and between Kansas City and Topeka, Kans., 68 miles. Among the conditions which the examiner would attach to approval of the application is one stipulating that Rock Island Transit shall not render service from or to, or interchange traffic at, Tonganoxie, Kans., and Lawrence; these two points the report had previously pointed out, are approximately 25 miles from any Rock Island station and are served by "at least one other rail carrier and numerous motor carriers."

In another proposed report, Joint Board No. 77, composed of C. V. Terrell of Texas, has recommended that the commission grant a common-carrier bus certificate to Texas & Pacific Coaches, Inc., affiliate of the Texas & Pacific, for continuance of operations on the 10-mile route between Mineral Wells, Texas, and Millsap.

Joint Board No. 205, composed of Eu-

Continued on next left-hand page

METHODS AND MACHINERY THAT GUARD LIMA QUALITY



Lima Locomotives are "HANDLED WITH CARE"

Even when lifting a locomotive Lima uses special equipment that results in the minimum of strain on the locomotive structure.

» » » From beginning to end in its manufacturing operations Lima bears in mind the ultimate service of its product. Every precaution is taken to build low maintenance and dependable service into every locomotive that leaves the Lima shops.

LIMA LOCOMOTIVE WORKS



INCORPORATED, LIMA, OHIO

gene S. Mathews of Florida, has recommended in a proposed report that the commission grant the Seaboard Air Line a certificate for common-carrier trucking operations over a specified route between Jacksonville, Fla., and Fernandina, via Yulee.

Joint Board No. 179, composed of John C. Highberger of Missouri, has recommended that the commission grant a common-carrier bus certificate to the Missouri Pacific Transportation Company, affiliate of the Missouri Pacific, for operations between Kansas City, Mo., and Marshall.

What Happens When a Railroad Pulls Up Its Rails

The far reaching effects of the abandonment of a 47½-mile stretch of track between Metter, Ga., and Brewton by the Central of Georgia is discussed in a news letter issued recently by H. D. Pollard, receiver. The Central of Georgia recently obtained permission from the Interstate Commerce Commission to abandon the line and service will be discontinued between Metter and Brewton on November 9; shortly thereafter the work of taking up the track will begin.

About the only party to benefit from the abandonment is the railroad itself, the letter points out. The line has long been unprofitable and has not earned even its operating expenses for some time past. Abandonment of the branch will relieve the railroad of a severe strain which in its present position it has not been able to justify.

The public, however, particularly of the ten communities along the line, will no longer have regular daily freight and passenger service by railroad. Since only two of these ten communities lie on the line of another railroad, the other eight will have to depend upon other forms of transport. Three of the four counties which the Brewton-Metter line crosses will lose one of their largest, if not their largest single, source of revenue.

Central of Georgia taxes on the line have been more than \$15,000 annually, of which nearly \$6,000 have been for school taxes. These tax sources will dry up and the communities affected will have to curtail operations or find some other source of tax revenue. Abandonment of the stretch will mean the abolishment of 17 steady railroad jobs. Since these wages are spent in home towns of the employees, these communities will be adversely affected by the abolishment of the jobs.

Mr. Pollard concludes his discussion by pointing out that abandonment of a railroad is resorted to only as a last measure, after every other means of keeping the line in operation has been tried. Furthermore, he writes, abandonment is practically never due to "drying up" of the territory the line had been serving, but almost invariably to the use of other forms of transportation by those who had formerly given their patronage to the railroad. He concludes: "The community that abandons the railroad by giving its patronage to its competitors can ultimately expect the railroad's abandonment of its line, with results similar to those in this case."

Supply Trade

Howard G. Hill, sales and service engineer of the **Miller Felpax Company**, Winona, Minn., has been appointed mechanical engineer, in addition to his other duties.

Water Jehu, general manager of the **Timken Roller Bearing Company, Ltd.**, Toronto, Ont., has been appointed district manager of the **Timken Roller Bearing Company**, with headquarters at Boston, Mass.

Dr. A. Giesl-Gieslingen, who for some years has been serving as a consulting engineer in the United States, has returned to Austria as assistant sales manager of the **Wiener Lokomotiv Fabrik-A. G.**, Vienna. Dr. Giesl first came to the United States in October, 1929. He was connected with the **Western Railway Equipment Company**, St. Louis, Mo., doing special engineering work from 1930 to 1933. Since 1933 he served as consulting engineer for various companies.

Donald A. Robison, treasurer of the **Caterpillar Tractor Company**, Peoria, Ill., has been promoted to general sales manager, and has been succeeded by **W. J. McBrien**, domestic credit manager. Mr. Robison entered the employ of the **Caterpillar Tractor Company** in 1926, at San Leandro, Cal. Subsequently he was employed in the parts, credit and sales departments. In 1930, he was promoted to assistant treasurer, and in 1937 to treasurer. Mr. McBrien became manager of the company's order bureau in 1930, and after holding the position of foreign credit manager, was transferred back to the domestic credit division.

The Bethlehem Steel Company has recently completed a large expansion and modernization program at its Johnstown, Pa., axle plant. This includes additional equipment in the forging and heat-treating departments and an entirely modern axle-finishing shop. In the forging department the equipment includes an additional forging hammer and a charging machine. There are two new modern heat-treating furnaces. The axle-finishing shop is housed in a building having brick walls with large steel sash and a saw-tooth roof. The floor is concrete with the surface hardened to withstand heavy trucking and prevent dusting, and wood blocks have been laid in front of all machines. There is a battery of cutting-off and centering machines; center-driven axle lathes, each having two tools at each end to permit the employment of a very slow feed without sacrifice of production; a battery of end-driven lathes for overall finishing, where required; boring mills with a capacity of 6-in. holes, 126 in. long, and a grinding machine for overall finishing of axles for high-speed passenger equipment. The machines are served by overhead monorails with electric hoists, and the shipping bed adjoining the machine tools is served by an overhead

crane. There is a stock yard with a storage capacity of about 1,500 tons.

William S. Johnson, district manager of the **American Car & Foundry Co.**, Berwick, Pa., will retire at his own request, effective December 1. Mr. Johnson has completed 53 years service in the employ of the **American Car & Foundry Co.**, and its predecessor, during the last 17 of which he was in full charge of the Berwick district. He started his career in the rolling mill of the **Jackson & Woodin Co.**, which later merged with other independents to form the **American Car & Foundry Co.** He rose through various steps until he reached the district managership on May 1, 1921. **Guy C. Beishline** has been appointed district manager in charge of the Berwick district, vice Mr. Johnson. Mr. Beishline returns to the plant where he started his career and after working for several years, he resigned in 1914, to join the **Mt. Vernon Car & Manufacturing Co.**, and in the course of 20 years rose to the position of plant manager, vice-president and director. In 1937 he rejoined the **American Car & Foundry** organization as a special assistant on the staff of the vice-president in charge of operations, from which he is now promoted to the district managership.

Equipment and Supplies

LOCOMOTIVES

THE KANSAS CITY TERMINAL has ordered a 900-hp. Diesel-electric locomotive from the **American Locomotive Company**. This company is also reported to have ordered two Diesel-electric switching locomotives from the **Electro-Motive Corporation**.

FREIGHT CARS

THE NORFOLK & WESTERN is inquiring for 1500 hopper cars of 55 tons' capacity and 600 box cars of 50 tons capacity.

THE KENNECOTT COPPER CORPORATION has ordered 12 air-dump cars of 50 tons' capacity from the **Austin-Western Road Machinery Company** for the **Nevada Consolidated Copper Corporation**. This is in addition to its order for 30 cars, reported in the *Railway Age* of October 29, page 644.

PASSENGER CARS

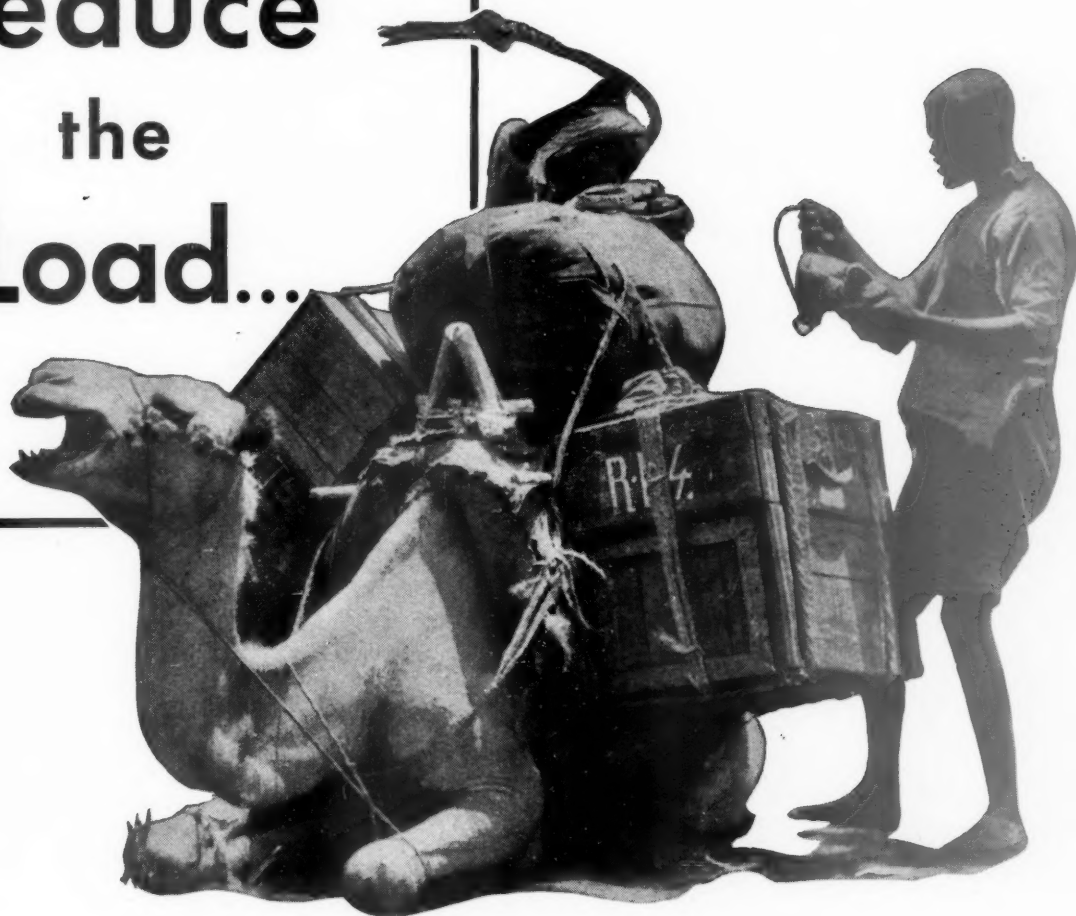
THE TEMISKAMING & NORTHERN ONTARIO is inquiring for one rail motor car.

SIGNALING

BOSTON & MAINE-MAINE CENTRAL—Sealed proposals will be received by **A. W. Munster**, vice-president of these roads, until 10 a. m., December 12, 1938, for furnishing automatic grade crossing pro-

Continued on next left-hand page

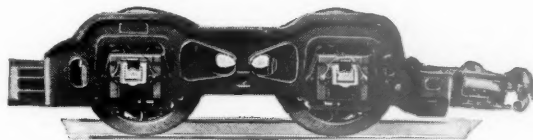
Reduce the Load...



...the Camel will last longer

Track is stronger than a camel's back . . . but it, too, has its limitations. » » » At present-day speeds of 90 M.P.H. and over, the destructive effect of dynamic augment on track is necessitating changes in locomotive design that will result in reductions in weight of the revolving and reciprocating parts. This results in a deficiency in starting power. » » » To overcome this deficiency and restore the design to a proper balance, Locomotive Boosters are being incorporated in the original design. This putting to work of what would otherwise be an idle trailing

axle gives the added power that results in a properly co-ordinated locomotive design, and enables the locomotive to make smooth, quick starts with rapid acceleration to road-speed. » » » Maintain your schedule . . . yet reduce the strain on your track . . . Incorporate Booster Power.



Franklin parts fit—in applying them there is no labor cost for fitting. They are built to original dimensions of carefully selected materials—they avoid road failures and excessive maintenance.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK

CHICAGO

MONTREAL

tection materials to the Boston & Maine at Norwich, Vt., and to the Maine Central at Gilman, Vt. Further information may be obtained from Mr. Munster, at 150 Causeway street Boston, Mass.

NORTHERN PACIFIC.—Sealed proposals will be received at the office of E. M. Willis, purchasing agent of this road, St. Paul, Minn., until 2:00 p. m. (c.s.t.) December 15, 1938, for materials required for one highway crossing signal installation, to be installed under the federal grade crossing program in the State of Washington.

MINNEAPOLIS & ST. LOUIS.—Sealed proposals will be received at the office of the superintendent of telegraph and signals of this road, Minneapolis, Minn., until 2:00 p. m. (c.s.t.) December 12, 1938, for the furnishing of signal materials to be used in connection with two federal aid grade crossing protection projects in the State of Illinois.

MOTOR VEHICLES

THE SANTA FE TRAILS TRANSPORTATION COMPANY has ordered from the American Car & Foundry Motors Company 40 air-conditioned buses powered with Hall-Scott horizontal engines.

Construction

CHESAPEAKE & OHIO.—The Interstate Commerce Commission, Division 4, has extended to December 31, 1940, the time within which this company may construct a line of railroad in Boone County, W. Va.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—A contract amounting to approximately \$86,000, has been awarded L. Balkin Builder, Inc., Chicago, by the Board of Local Improvements of Chicago for the construction of the substructure of the Wrightwood Avenue subway which will support four tracks of this road. The subway is a 46-ft. span H-beam structure with reinforced concrete abutments of the "A" type providing for 7 ft. 6 in. side walks, and resting on steel-incased cast-in-place concrete piling. The bridge will have a ballast deck on a water-tight wrought iron floor welded to the H-beams.

PERE MARQUETTE.—A contract amounting to \$90,720, has been awarded by the Michigan State Highway Department to the Hilling Construction Company, Grand Rapids, Mich., for the construction of a grade separation structure, consisting of a three-span, ballasted deck, half-through plate girder bridge with footwalks providing for a single track of this road $\frac{3}{4}$ mile east of Grand Rapids. The two approach spans of this structure, which crosses over the highway at an angle of 40 deg. 7 min., are 48 ft. long, and the center span is 80 ft. in length, providing a clear roadway for the highway 44 ft. in width.

Financial

ATCHISON, TOPEKA & SANTA FE.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this company to abandon the line and the Gulf, Colorado & Santa Fe to abandon the operation of the line known as the Sulphur branch, extending from Davis, Okla., in a general easterly direction to Sulphur, nine miles.

BALTIMORE & OHIO.—*New Directors.*—J. Hamilton Cheston, vice-president of the Philadelphia Savings Fund Society, Philadelphia, Pa., and John C. Traphagen, president of the Bank of New York, New York, have been elected directors of this road.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.—*Abandonment.*—This road has applied to the Interstate Commerce Commission for authority to abandon the 17-mile segment of its Hannibal branch between Holcombe, Wisc., and Hannibal.

CITY OF GRANTS PASS, OREGON.—*RFC Loan Application Dismissed.*—The Interstate Commerce Commission, Division 4, has dismissed the joint application of the City of Grants Pass, Oregon, and the Crescent City Harbor District, for approval of a loan to them of \$3,750,117 by the Reconstruction Finance Corporation for the purpose of aiding in the construction and equipment of an extension of the California & Oregon Coast.

DELAWARE, LACKAWANNA & WESTERN.—*Seeks Loan to Pay Taxes.*—This road has applied to the Interstate Commerce Commission for approval and to the Reconstruction Finance Corporation for a loan of \$2,000,000, the proceeds to be used to pay taxes, including \$1,968,594 to the state of New Jersey and \$31,406 to the city of Buffalo, N. Y. The application, which states that the road has been unable to obtain the necessary credits from banks on acceptable terms, offers to the R. F. C. as collateral up to \$10,000,000 par value of Morris & Essex Railroad construction mortgage 4½ per cent bonds, series C. It is also asked that the loan be made available by December 1, since the taxes involved carry a penalty of one per cent a month if not paid by that date.

ERIE.—*Reorganization.*—The Interstate Commerce Commission has assigned this company's reorganization case for hearing before Commissioner Porter on January 4, 1939.

ILLINOIS CENTRAL.—*New Director Elected.*—John W. Rath, Waterloo, Iowa, was elected to the board of directors of the Illinois Central on November 18, to fill the vacancy caused by the death on September 3, of Jerome J. Hanauer of New York. Mr. Rath is president of the Rath Packing Company, and is a director and member of the executive committee of the Institute of American Meat Packers, a director of the National Live Stock Association and a member of the executive committee of the Iowa Manufacturers As-

sociation. The election of Mr. Rath is a continuation of the Illinois Central policy of electing prominent Middle Western men to its board.

KANSAS CITY SOUTHERN.—*Control of Louisiana & Arkansas.*—This road has applied to the Interstate Commerce Commission for authority to acquire control of the Louisiana & Arkansas through purchase of capital stock. The applicant proposes to convert its own 300,000 shares of \$100-par common stock into the same number of no-par shares and to increase the total authorized issue to 750,000 shares. Then it would exchange 110,000 shares for 160,000 shares of L. & A. common, and offer another 100,000 shares, on the basis of two and one-half for one, for 40,000 shares of the L. & A.'s preferred, six per cent series, of \$50 par value. If L. & A. preferred holders do not offer their stock on this basis within three years, the K. C. S. asks authority to purchase such preferred at \$37.50 per share.

LEHIGH VALLEY.—*Re-adjustment Plan.*—This road has announced that the holders of more than 80 per cent of the bonds to be affected by a plan of interest and maturity extensions approved by the board of directors last August have indicated their assent, thereby fulfilling the terms set by the plan to make it effective. Official announcement of effectiveness of the plan must wait, however, for formal approval of its provisions by a committee representing banks and insurance companies headed by H. C. Hagerty, treasurer, Metropolitan Life Insurance Company, New York. The plan, as tentatively drawn up, was described in the *Railway Age* for August 27, page 337.

NEW YORK, NEW HAVEN & HARTFORD.—*Equipment Trust Certificates.*—This road has asked the Interstate Commerce Commission to modify previous orders in No. 10403 so as to limit to \$2,227,000 the face value of its equipment trust certificates of 1934. The road stated that it does not intend to issue any more than the amount of the certificates which were originally authorized in the amount of \$2,300,000 in an order dated May 18, 1934, and later limited to \$2,295,000 in an order dated December 26, 1934.

NORFOLK SOUTHERN-ATLANTIC & NORTH CAROLINA.—*Joint Operation.*—The Interstate Commerce Commission, Division 4, has authorized these companies to operate over the lines of each other in New Bern, N. C.

RAILWAY EXPRESS AGENCY.—*Notes.*—This company has asked the Interstate Commerce Commission for authority to issue \$16,000,000 of serial notes to redeem a like amount of its outstanding five per cent bonds. The notes will mature in 20 equal semi-annual installments of \$800,000, beginning June 1, 1939, and ending December 1, 1948.

SEABOARD AIR LINE.—*R. F. C. Loan.*—This road has applied to the Interstate Commerce Commission for approval of arrangements whereby it is seeking Recon-

NO. 73 OF A SERIES OF FAMOUS ARCHES OF THE WORLD



MAUREPIRE VIADUCT

BELGIUM

The Maurepire Viaduct carries the double-track mainline of the Belgium National Railways between Bertrix and Mune depots. The total length of this viaduct, which is constructed of brick, is 130 metres including the approaches. The center arch has a span of 30 metres and the two adjoining arches each have a span of 15 metres. The height in the center, from the

ground level, is 22 metres.

The Security Sectional Arch has played a leading part in providing low-cost steam transportation and fuel economy. But only when you have a complete arch, with every brick in place, can you realize the full efficiency of your arch.

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

**HARBISON-WALKER
REFRACTORIES CO.**

Refractory Specialists



**AMERICAN ARCH CO.
INCORPORATED**

60 EAST 42nd STREET, NEW YORK, N. Y.

*Locomotive Combustion
Specialists*

struction Finance Corporation aid to finance \$640,000 or 90 per cent of the cost of a new Diesel-electric locomotive and seven passenger-train cars. The road proposes that the R. F. C. purchase at par \$640,000 of its three per cent equipment trust certificates, series HH, dated January 1, 1939, and payable in 10 equal annual installments beginning January 1, 1940; or that it guarantee the payment of principal and interest on such terms as will leave at three per cent the cost to the S. A. L., while the purchaser or purchasers pay the R. F. C. such amount as shall be agreed upon as compensation for the guarantee.

ST. LOUIS SOUTHWESTERN OF TEXAS.—Operation.—The Interstate Commerce Commission, Division 4, has authorized the trustee to operate, under trackage rights, over the tracks of the Dallas Terminal Railway & Union Depot in Dallas, Tex.

SMOKY MOUNTAIN.—R. F. C. Loan.—This company has applied to the Interstate Commerce Commission for approval and to the Reconstruction Finance Corporation for a loan of \$40,000, the proceeds to be used as follows: Replacement of worn out rails, \$24,000; acquisition of ballast, \$10,000; and ties, \$6,000.

SOUTHERN.—Equipment Trust Certificates.—This road has applied to the Interstate Commerce Commission for authority to assume liability for \$6,000,000 of four per cent equipment trust certificates, Series FF, to be delivered to the Reconstruction Finance Corporation in connection with the financing of the recent purchase of 2,400 freight cars and 25 express cars. These purchases, the application states, complete the freight-train equipment program now contemplated by the Southern, which estimates that the whole project, involving the recent acquisition of a total of 8,124 new cars, will reduce its annual car-hire bill by \$1,962,000 and cut maintenance of equipment expenses by \$350,000 a year for the next five years. This total estimated annual saving of \$2,312,000, the application points out, will be "substantially more" than the total additional interest and principal installments of \$2,160,437 for the second year of the equipment trust's term, that being the year of heaviest payments. The trust is to run for 15 years with payments of 14 annual installments beginning at the end of two years.

VISALIA ELECTRIC.—Abandonment.—The Interstate Commerce Commission, Division 4, has authorized this company to abandon the operation of the line of the Fresno Traction Company in Fresno, Calif., and suburban territory, 17,003 ft.

WHEELING & LAKE ERIE.—PITTSBURGH & WEST VIRGINIA.—Interlocking Directorate.—The Interstate Commerce Commission, Division 4, has granted authority to Herbert A. May to serve as director of the Wheeling & Lake Erie while continuing to hold the position of director of the Pittsburgh & West Virginia. The majority opinion points out that the controlling stock interest of the Pittsburgh & West Virginia is held by the Pennroad Corporation, a holding company, of which the ap-

plicant is a director. The P. & W. V. holds 45 shares of prior lien, 14,600 shares of preferred and 59,400 shares of the common stock of the Wheeling & Lake Erie, according to the commission's opinion.

Commissioner Porter objected to the majority's opinion in which it found no danger to the public interest in this interlocking directorate, pointing out that it was the definite policy of the commission that "the continuation or acquisition of inter-system interest directly or indirectly through holding companies, stock ownership, or otherwise, will be inconsistent with the independence necessary to true competition."

"Under these circumstances," he declared, "I cannot agree with the majority that neither 'public nor private interest would be adversely affected' by granting this application. In our consolidation plan we have determined where the line must be drawn in these matters so as not to affect adversely public or private interests. To approve this application, it seems to me, would be plainly inconsistent with the statement of policy and 'requirement' set out in connection therewith, and which is as much a part of the plan as the railroad allocations themselves and, moreover, is based squarely upon the law."

Citing the commission's decision in the Astor case, Commissioner Porter concluded his dissent by saying that "In view of this expression by the entire commission which refused Astor, then on the Board of the Illinois Central and of the Great Northern, to serve as a director of the Delaware & Hudson, the latter company being far distant from the other two and not directly competitive as are the two railroads here involved, it seems to me that the division is here acting squarely in disregard of what has heretofore been the policy of this commission."

Average Prices of Stocks and Bonds

	Nov. 22	Last week	Last year
Average price of 20 representative railway stocks..	30.66	32.28	30.30
Average price of 20 representative railway bonds..	60.71	62.17	65.28

Dividends Declared

Atlanta, Birmingham & Coast.—Preferred, \$2.50, semi-annually, payable January 1, 1939, to holders of record December 12.
 Alabama Great Southern.—Ordinary Stock, \$3.00 Extra; Preferred, \$3.00 Extra, both payable December 23 to holders of record November 29.
 Atlantic Coast Line.—\$1.00, payable December 21 to holders of record November 28.
 Chestnut Hill.—75c, quarterly, payable December 5 to holders of record November 19.
 Cincinnati, New Orleans & Texas Pacific.—\$5.00, semi-annually; Common Extra, \$6.00, both payable December 22 to holders of record December 1.
 Clearfield & Mahoning.—\$1.50, semi-annually, payable January 3 to holders of record December 20.
 Delaware & Bound Brook.—\$2.00, quarterly, payable November 19 to holders of record November 15.
 Kansas, Oklahoma & Gulf.—Series A 6 Per Cent Cumulative Preferred, \$3.00; Series B 6 Per Cent Non-Cumulative Preferred, \$3.00; Series C 6 Per Cent Non-Cumulative Preferred, \$2.00, all payable December 1 to holders of record November 22.
 Louisville & Nashville.—\$1.50, payable December 23 to holders of record November 29.
 Pullman, Inc.—25c payable December 15 to holders of record November 28.
 St. Louis Rocky Mountain & Pacific.—25c, payable December 10 to holders of record November 25.

Railway Officers

EXECUTIVE

Evert C. Blundell, assistant to the executive vice-president, in charge of track maintenance, of the Chicago, St. Paul, Minneapolis & Omaha, with headquarters at St. Paul, Minn., retired on November 1. Mr. Blundell was born in Le Sueur County, Minn., on June 19, 1867, and entered railway service in 1880 with the Chicago & North Western at Highmore, S. D. He subsequently served from 1889 to 1897, the Sioux City & Northern (now part of the Great Northern) and the Pacific Shore Line (now part of the Chicago, Burlington & Quincy), and from 1896 to 1898, the Union Pacific. In 1898, he went with the Omaha, and later was promoted to roadmaster, serving in that capacity successively at Itasca, Wis., and Eau Claire. In 1912, he was advanced to assistant superintendent, with headquarters at Eau Claire, and in January, 1913, he was promoted to division superintendent with headquarters at Omaha, Neb. Mr. Blundell was further advanced in May, 1933, to assistant to the vice-president and general manager, with supervision over all track maintenance matters, and with headquarters at St. Paul. His title was later changed to assistant to the executive vice-president.

FINANCIAL, LEGAL AND ACCOUNTING

Edwin E. Rusch, whose promotion to general auditor of the Chicago, St. Paul, Minneapolis & Omaha, was announced in the *Railway Age* of November 5, was born at Hudson, Wis., on April 12, 1893. He entered railway service in the summer of

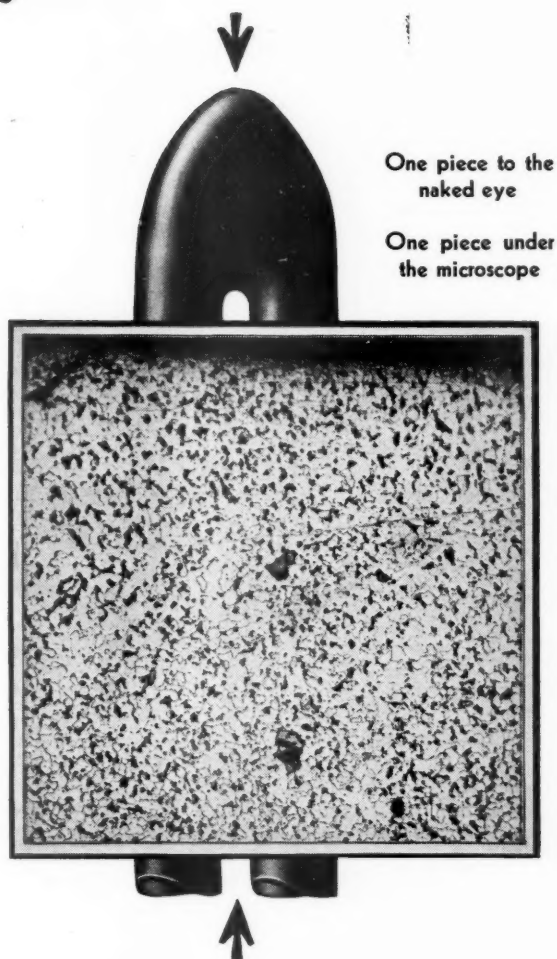


Edwin E. Rusch

1909 serving as a track laborer between terms of school, and as a laborer in the shop and stores departments in the summers of 1910 and 1911. He became a regular employee in June, 1912, serving as a laborer in the stores department, and subsequently became clerk and foreman. In November, 1916, he transferred to a clerical position in the accounting department. During the

Continued on next left-hand page

Seeing is Believing



The Elesco method of joining tubes by machine forging return bends from the tubing itself eliminates joints.

This method of forging the return bends provides not only a continuous tube visually, but also a continuity of the metal structure itself.

See photomicrograph from routine daily tests which show the forging to possess:

- (a) A minimum amount of inclusions.
- (b) A fine grain.
- (c) No decarburization.
- (d) Uniformity in grain size and composition.
- (e) A metal structure implying maximum toughness.



A-1281

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, INC.

60 East 42nd Street, NEW YORK

122 S. Michigan Ave., CHICAGO

Canada: THE SUPERHEATER COMPANY, LTD., MONTREAL

Superheaters • Exhaust Steam Injectors • Feed Water Heaters • American Throttles • Pyrometers • Steam Dryers

war he served with the U. S. army, and in July, 1919, after 17 months service overseas, he returned to his former position in the accounting department. Mr. Rusch was promoted to traveling accountant in August, 1920, and was advanced to assistant auditor of disbursements in September, 1923. In February, 1929 he was promoted to auditor of disbursements.

OPERATING

J. J. West, superintendent of the Georgia division of the Railway Express Agency, with headquarters at Atlanta, Ga., has been transferred to the Kentucky division, with headquarters at Louisville, Ky., succeeding **J. K. Shannon**, deceased.

H. G. Watkins, superintendent and chief engineer of the Akron, Canton & Youngstown, with headquarters at Akron, Ohio, has been appointed general superintendent and chief engineer, with the same headquarters, with jurisdiction over transportation, engineering, maintenance of way, and maintenance of equipment.

W. A. Aiken, Jr., superintendent of transportation of the Richmond, Fredericksburg & Potomac, with headquarters at Richmond, Va., has been appointed general superintendent, a newly created position, with the same jurisdiction and duties, and the same headquarters as formerly. The position of superintendent of transportation has been abolished.

J. H. Grady, chief clerk in the vice-president's office of the Railway Express Agency at San Francisco, Cal., has been promoted to superintendent of the Montana division, with headquarters at Spokane, Wash., succeeding **E. M. Graham**, who has been transferred to the Central California division, with headquarters at San Francisco, relieving **W. E. Carpenter**, who retired on October 1.

TRAFFIC

F. S. Dean, agent on the Gulf, Mobile & Northern at Jackson, Miss., has been promoted to general agent with the same headquarters, a newly-created position.

G. J. Bauer, district traffic agent on the Akron, Canton & Youngstown, with headquarters at Akron, Ohio, has been promoted to the newly-created position of coal freight agent, with the same headquarters.

John J. Lane, assistant general freight and passenger agent on the Panhandle & Santa Fe, with headquarters at Amarillo, Tex., and a former general traffic manager of the old Kansas City, Mexico & Orient, died suddenly at Amarillo, on November 14, following an attack of acute indigestion. Mr. Lane was born at Leavenworth, Kan., on June 4, 1874 and entered railway service in 1889, in the traffic department of the Kansas City, Wyandotte & Northwestern (later Kansas City Northwestern, since abandoned). In 1900, he went with the Omaha, Kansas City & Eastern (now part of the Quincy, Omaha & Kansas City), and the Omaha & St. Louis (now part of the Wabash), as chief clerk

in the traffic department. In 1903, he went with the Kansas City, Mexico & Orient as chief clerk in the traffic department, and was later promoted to assistant general freight agent, with headquarters at Wichita, Kan. In December, 1923, he was promoted to assistant general traffic manager, and in January, 1925, he was advanced to general traffic manager. In the summer of 1929, subsequent to the acquisition of the Orient by the Santa Fe, Mr. Lane was appointed assistant general freight and passenger agent of the Panhandle & Santa Fe, with headquarters at Amarillo, Tex., the position he held at the time of his death.

A. R. Malcolm, general agent on the Union Pacific, with headquarters at Detroit, Mich., has been promoted to assistant traffic manager, with the same headquarters, a newly created position, and the position of general agent at that point has been abolished. Mr. Malcolm was born at Milwaukee, Wis., on September 27, 1875, and entered railway service on May 1, 1897, as a chief clerk in the Milwaukee office of the Ann Arbor. On March 1, 1900, he went with the Chicago & Alton as contracting freight agent, with headquarters at Milwaukee, and three years later went with the Missouri Pacific as traveling freight and passenger agent, with the same headquarters. On March 1, 1908, he was promoted to commercial agent, and on April 1, 1914, he was advanced to assistant general freight agent, with head-



A. R. Malcolm

quarters at Omaha, Neb. He was appointed general agent with headquarters at San Francisco, Cal., on January 1, 1916, and on March 1, 1918, he was promoted to assistant traffic manager, with headquarters at New Orleans, La. On July 1, 1918, he resigned to become Pacific Coast manager of the J. H. W. Steele Co., San Francisco. Mr. Malcolm returned to railway service on February 15, 1920, as general agent on the Union Pacific at Detroit, Mich.

ENGINEERING AND SIGNALING

Ralph R. Strothers, whose promotion to assistant chief engineer and superintendent of ways and structures of the Chicago, St. Paul, Minneapolis & Omaha, with headquarters at St. Paul, Minn., was

announced in the *Railway Age* of November 12, was born at Hubbard, Iowa, on August 17, 1885, and graduated in civil engineering from Iowa State College in 1909. He entered railway service in the engineering department of the Chicago &



Ralph R. Strothers

North Western in September 1909, and five years later was promoted to assistant engineer on field work for the Omaha. In 1920, he was advanced to assistant engineer in charge of estimates, with headquarters at St. Paul, and on February 1, 1929, he was promoted to assistant chief engineer.

MECHANICAL

E. A. Schrank, master mechanic on the Chicago, Burlington & Quincy at Galesburg, Ill., has been transferred to Casper, Wyo., succeeding **William Schwartz**, who returned to his former position as roundhouse foreman at that point.

OBITUARY

John B. Payne, vice-president in charge of traffic of the Texas & Pacific, with headquarters at Dallas, Tex., died in that city on November 9.

Laurits Water Skov, hydraulic engineer of the Chicago, Burlington & Quincy, with headquarters at Chicago, died at his home in Chicago, on November 16, after an extended illness. Mr. Skov was born at Alden, Minn., on March 9, 1885, and attended Grand View College, Des Moines, Iowa, and Armour Institute of Technology. He entered railway service in the bridge department of the Burlington in November, 1906, and was promoted successively in that department to tracer, detailer, designer and on June 1, 1918 to chief designer. On February 10, 1919, he was appointed terminal viaduct engineer, and two months later was advanced to office engineer in the chief engineer's office at Chicago. On August 20, 1929, Mr. Skov was appointed special engineer of design on the 16th Street grade separation work involving the Canal Street bridge at Chicago, and on September 1, 1931, he returned to his former position of office engineer. Five years later he was advanced to hydraulic engineer.

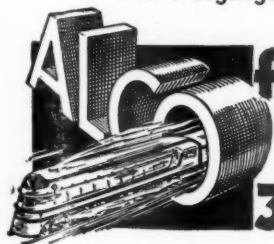


REDUCE OPERATING EXPENSES

IN THIS day and age railroads cannot risk the danger of higher costs that go hand in hand with unknown quality. The long life and trouble-free service delivered by Alco Forgings not only protects engine service and improves availability, but eliminates many important items of upkeep thereby positively reducing operating expenses.

With Alco Forgings high quality—with resulting reliability—is uppermost. You are assured of thoroughly solid homogeneous forgings scientifically heat treated and accurately machined which will consistently meet every demand for dependable and economical locomotive performance.

Alco Forgings are the finest forgings money can buy and cost least in the long run.



AMERICAN LOCOMOTIVE COMPANY

30 CHURCH STREET • NEW YORK • N.Y.

Freight Operating Statistics of Large Steam Railways—Selected Items for the Month of September.

Region, road, and year	Miles of road operated	Train-miles	Locomotive-miles		Car-miles		Ton-miles (thousands)		Number of road locomotives on line					
			Principal and helper	Light	Loaded (thousands)	Per cent loaded	Gross, excluding locomotives and tenders	Net, revenue and non-revenue	Serviceable		Per cent un-serviceable			
									Not stored	Stored				
New England Region:														
Boston & Albany.....	1938	374	80,095	83,013	5,801	1,785	69.8	96,629	34,303	49	6	35	38.9	
	1937	374	129,449	133,269	8,349	2,874	70.1	155,668	56,477	61	10	20	22.0	
Boston & Maine.....	1938	1,937	192,623	213,111	15,772	6,734	74.6	354,319	137,942	122	1	111	47.4	
	1937	1,941	262,563	290,731	23,306	9,139	72.2	487,306	184,407	130	5	120	47.1	
N. Y., New Hav. & Hartf.....	1938	2,002	239,447	304,247	20,797	8,305	70.8	433,949	167,021	181	6	86	36.0	
	1937	2,011	319,857	390,859	25,633	11,476	72.7	585,013	229,257	182	15	64	26.3	
Great Lakes Region:														
Delaware & Hudson.....	1938	830	198,023	263,308	25,067	7,077	71.6	412,715	201,727	122	95	46	17.5	
	1937	830	220,532	288,258	30,697	7,676	69.1	460,346	225,389	126	106	29	11.1	
Del., Lack. & Western.....	1938	983	293,618	333,818	46,052	10,618	69.7	604,488	236,188	121	6	84	39.8	
	1937	983	339,163	378,266	48,872	11,512	71.5	648,148	263,641	134	16	68	31.2	
Erie (incl. Chi. & Erie).....	1938	2,276	597,205	636,158	39,352	26,454	66.6	1,638,437	599,714	216	29	224	47.8	
	1937	2,277	690,369	730,671	43,662	30,255	68.2	1,840,469	694,049	242	35	186	40.2	
Grand Trunk Western.....	1938	1,027	213,178	215,544	1,766	5,551	65.1	331,949	118,975	65	1	48	42.1	
	1937	1,027	238,481	240,662	3,048	6,520	65.0	389,141	143,097	84	1	47	35.6	
Lehigh Valley.....	1938	1,268	266,491	295,229	45,776	11,080	67.5	682,128	292,542	118	3	114	48.5	
	1937	1,301	314,929	344,384	47,107	12,235	68.6	757,034	336,281	129	8	136	49.8	
New York Central.....	1938	10,651	2,260,649	2,402,034	162,261	76,745	61.9	5,094,961	2,172,232	791	173	491	33.7	
	1937	10,681	2,669,930	2,820,715	161,577	91,135	61.9	6,069,038	2,589,334	945	175	347	23.7	
N. Y., Chicago & St. Louis.....	1938	1,672	443,837	450,351	5,927	16,081	63.9	967,651	356,177	140	20	38	19.2	
	1937	1,672	471,077	477,488	6,496	16,978	66.1	1,009,750	392,888	156	20	20	10.2	
Pere Marquette.....	1938	2,081	284,153	293,941	5,783	7,935	63.0	509,577	203,896	98	10	56	34.1	
	1937	2,081	347,400	357,334	5,946	9,197	63.5	585,814	234,764	117	8	26	17.2	
Pittsburgh & Lake Erie.....	1938	233	61,213	62,412	.....	2,643	62.1	225,117	128,150	37	..	37	50.0
	1937	234	89,753	92,596	.....	3,517	62.6	299,418	172,989	41	15	22	28.2
Wabash.....	1938	2,421	494,796	504,115	11,066	15,722	67.3	918,205	329,264	127	15	137	49.1	
	1937	2,421	557,822	568,435	12,622	17,600	67.7	1,021,692	378,595	148	26	115	39.8	
Central Eastern Region:														
Baltimore & Ohio.....	1938	6,311	1,277,891	1,575,065	167,614	41,436	62.9	2,822,570	1,261,076	586	143	511	41.2	
	1937	6,330	1,526,162	1,887,825	193,884	48,593	63.6	3,354,921	1,566,895	676	99	502	39.3	
Central of New Jersey.....	1938	679	133,893	155,062	30,228	4,452	63.5	298,730	141,305	71	4	78	51.0	
	1937	678	149,346	168,933	33,267	4,933	62.6	330,940	157,225	73	8	70	46.4	
Chicago & Eastern Illinois.....	1938	927	154,485	154,687	2,540	3,950	67.3	240,445	100,945	54	1	52	48.6	
	1937	931	170,873	171,284	2,819	4,715	69.6	290,662	131,790	55	..	47	46.1	
Elgin, Joliet & Eastern.....	1938	435	76,293	77,090	693	1,831	59.5	138,960	66,143	43	7	33	39.8	
	1937	435	116,662	118,305	1,831	2,957	59.4	233,800	117,591	55	..	26	32.1	
Long Island.....	1938	390	27,662	28,533	15,010	256	51.9	19,564	7,472	29	11	8	16.7	
	1937	393	26,900	27,529	14,668	246	50.9	18,783	7,168	29	12	8	16.3	
Pennsylvania System.....	1938	10,014	2,298,124	2,805,861	320,637	90,984	63.2	6,019,586	2,637,140	1,096	289	986	41.6	
	1937	10,015	2,991,129	3,452,385	392,073	112,338	64.2	7,626,165	3,558,101	1,399	321	558	24.5	
Reading.....	1938	1,442	326,107	365,399	44,431	9,931	62.9	700,168	336,122	176	32	145	41.1	
	1937	1,445	399,504	440,463	51,253	11,430	63.6	808,567	391,445	197	28	112	33.2	
Pocahontas Region:														
Chesapeake & Ohio.....	1938	3,050	802,860	841,583	38,086	37,410	56.4	3,184,284	1,749,611	346	42	141	26.7	
	1937	3,050	898,251	945,147	40,746	41,675	57.1	3,523,286	1,947,690	409	45	96	17.5	
Norfolk & Western.....	1938	2,178	623,407	648,126	32,899	27,067	58.8	2,212,812	1,164,588	265	63	35	9.6	
	1937	2,179	702,342	736,370	41,105	30,506	58.5	2,594,940	1,403,066	315	27	24	6.6	
Southern Region:														
Atlantic Coast Line.....	1938	5,079	459,914	463,332	6,957	10,436	64.4	592,267	208,482	237	46	93	24.7	
	1937	5,074	501,467	506,633	7,195	11,693	67.4	622,064	237,044	219	63	90	24.2	
Central of Georgia.....	1938	1,886	225,288	226,474	3,309	5,040	71.9	271,685	103,098	91	..	33	26.6	
	1937	1,886	262,666	264,647	3,511	5,713	72.1	310,431	124,578	104	..	20	16.1	
Illinois Central (incl. Y. & M. V.).....	1938	6,540	1,227,754	1,233,310	22,128	34,992	63.5	2,254,434	947,690	610	28	229	26.4	
	1937	6,546	1,415,636	1,424,695	25,885	39,323	65.0	2,487,284	1,050,887	627	60	173	20.1	
Louisville & Nashville.....	1938	4,928	1,002,014	1,083,648	30,283	25,330	60.1	1,786,925	856,564	335	19	193	35.3	
	1937	4,931	1,147,946	1,251,408	28,764	27,839	60.6	1,980,910	976,322	367	59	125	22.7	
Seaboard Air Line.....	1938	4,305	430,090	447,324	5,057	10,917	66.2	630,857	244,075	208	28	71	23.1	
	1937	4,295	439,966	453,108	4,599	11,400	69.5	639,269	256,332	197	45	71	22.7	
Southern.....	1938	6,561	1,229,356	1,246,798	19,297	28,249	67.0	1,627,839	644,359	480	21	200	28.5	
	1937	6,596	1,252,023	1,271,701	19,160	29,038	70.1	1,600,827	658,438	523	3	231	30.5	
Northwestern Region:														
Chicago & North Western.....	1938	8,388	848,133	880,951	23,320	24,578	62.9	1,561,398	540,738	315	143	234	33.8	
	1937	8,397	1,026,229	1,073,126	28,240	28,242	62.1	1,801,754	677,904	429	95	175	25.0	
Chicago Great Western.....	1938	1,450	253,259	255,219	13,851	7,443	62.8	458,845	162,648	63	2	28	30.1	
	1937	1,450	290,620	294,061	11,392	8,661	62.2	535,791	198,208	70	..	23	24.7	
Chi., Milw., St. P. & Pac.....	1938	10,941	1,228,575	1,271,167	47,568	34,077	61.3	2,236,576	909,175	487	80	127	18.3	
	1937	11,109	1,420,664	1,503,827	65,394	38,599	61.3	2,504,685	1,009,279	544	22	104	15.5	
Chi., St. P., Minneap. & Om.....	1938	1,619	209,700	218,139	10,880	4,833	65.0	300,919	123,719	111	18	14	9.8	
	1937	1,636	250,717	264,686	12,392	5,587	64.1	354,693	148,049	116	4	25	17.2	
Great Northern.....	1938	7,976	933,540	935,763	29,990	31,928	57.4	2,352,250	1,020,079	393	23	134	24.4	
	1937	7,997	1,040,327	1,045,185	36,258	37,491	58.0	2,703,467	1,234,548	400	20	133	24.1	
Minneap., St. P. & S. St. M.....	1938	4,273	365,396	370,119	3,458	8,322	65.7	504,210	211,339	122	1	26	17.4	
	1937	4,277	428,909	437,420	5,480	10,368	63.7	642,046	277,553	123	..	28	18.5	
Northern Pacific.....	1938	6,423	669,034	706,118	34,908	21,887	65.8	1,351,545	555,345	331	20	110	23.9	
	1937	6,429	835,371	882,797	46,761	26,401	61.3	1,694,910	675,597	382	11	69	14.9	
Central Western Region:														
Alton.....	1938	912	195,471	209,606	1,102	4,277	63.6	268,560	89,101	50	17	25	27.2	
	1937	912	215,233	233,245	2,423	5,030	65.6	310,883	123,266	71	..	25	26.0	
Atch., Top. & S. Fe (incl. G.C. & S.F. & P. & S.F.).....	1938	13,500	1,765,663	1,899,402	89,781	50,742	62.2	3,252,074	1,054,125	569	62	286	31.2	
	1937	13,541	1,931,746	2,085,120	92,329	56,692	65.4	3,525,171	1,241,054	645	39			

1938. Compared with September, 1937, for Roads with Annual Operating Revenues Above \$25,000,000

Region, road, and year	Number of freight cars on line			Per cent un-service-able	Gross ton-miles per train-hour, excluding locomotives and tenders		Net ton-miles per train-mile	Net ton-miles per loaded car-mile	Net ton-miles per car-day	Car-miles per car-day	Net ton-miles per mile of road per day	Pounds of coal per 1,000 gross ton-miles, including locomotives and tenders	Locomotive-miles per locomotive-day
	Home	Foreign	Total		Gross ton-miles per train-hour, excluding locomotives and tenders	Gross ton-miles per train-mile, excluding locomotives and tenders							
New England Region:													
Boston & Albany.....1938	853	3,506	4,359	2.8	19,074	1,224	434	19.2	269	20.0	3,057	164	35.6
.....1937	2,028	3,834	5,862	27.0	20,045	1,216	441	19.7	308	22.4	5,034	159	55.5
Boston & Maine.....1938	7,573	10,309	17,882	9.7	24,058	1,851	721	20.5	282	18.5	2,374	97	35.6
.....1937	7,060	8,094	15,154	12.5	25,344	1,866	706	20.2	415	28.5	3,167	98	44.8
N. Y., New Hav. & Hartf..1938	9,414	17,521	26,935	11.1	24,502	1,853	713	20.1	247	17.4	2,781	104	44.3
.....1937	8,349	12,776	21,125	11.8	26,026	1,861	729	20.0	378	26.0	3,800	99	59.0
Great Lakes Region:													
Delaware & Hudson.....1938	8,251	3,037	11,288	4.9	28,783	2,099	1,026	28.5	584	28.6	8,101	103	38.9
.....1937	7,625	3,851	11,476	4.2	29,663	2,095	1,026	29.4	655	32.2	9,052	102	44.5
Del., Lack. & Western.....1938	11,532	6,631	18,163	18.3	36,571	2,091	817	22.2	433	27.9	8,009	126	62.6
.....1937	12,515	6,556	19,071	13.4	32,077	1,938	788	22.9	462	28.3	8,940	130	71.2
Erie (incl. Chi. & Erie)....1938	15,997	14,545	30,542	6.8	46,722	2,767	1,013	22.7	654	43.3	8,783	88	53.0
.....1937	15,602	16,625	32,227	5.1	44,264	2,693	1,015	22.9	729	46.6	10,160	91	61.2
Grand Trunk Western.....1938	5,361	5,466	10,827	16.3	32,187	1,568	562	21.4	369	26.5	3,862	92	70.9
.....1937	4,838	8,549	13,387	14.3	30,665	1,639	603	21.9	382	26.8	4,644	93	67.8
Lehigh Valley .....1938	10,623	9,872	20,495	8.1	46,648	2,581	1,107	26.4	493	27.7	7,690	102	51.7
.....1937	9,781	11,530	21,311	7.1	41,534	2,439	1,083	27.5	546	29.0	8,616	108	50.7
New York Central.....1938	96,866	64,032	160,898	21.8	36,485	2,280	972	28.3	456	26.1	6,798	96	66.1
.....1937	90,804	73,378	164,182	15.4	37,141	2,297	980	28.4	529	30.1	8,081	95	76.6
N. Y., Chicago & St. Louis.1938	6,866	7,022	13,888	5.9	40,361	2,184	804	22.1	847	59.8	7,101	81	83.3
.....1937	6,313	7,904	14,217	3.1	37,941	2,149	836	23.1	901	58.9	7,833	85	89.5
Pere Marquette .....1938	9,862	5,795	15,657	4.8	28,447	1,796	719	25.7	431	26.6	3,266	84	68.9
.....1937	7,923	7,598	15,521	4.0	26,693	1,688	677	25.5	506	31.2	3,760	88	90.7
Pittsburgh & Lake Erie....1938	8,636	8,373	17,009	38.7	51,175	3,678	2,094	48.5	247	8.2	18,333	76	31.1
.....1937	8,427	10,224	18,651	32.5	47,034	3,353	1,937	49.2	309	10.0	24,642	82	43.3
Wabash .....1938	16,137	8,555	24,692	9.8	37,541	1,871	671	20.9	451	32.0	4,533	104	65.1
.....1937	12,751	10,247	22,998	6.2	37,345	1,847	684	21.5	556	38.2	5,213	106	71.0
Central Eastern Region:													
Baltimore & Ohio.....1938	58,423	23,518	81,941	21.6	29,971	2,239	1,000	30.4	514	26.8	6,661	129	50.5
.....1937	55,677	31,778	87,455	12.5	28,225	2,235	1,044	32.2	592	28.9	8,251	130	58.5
Central of New Jersey.....1938	10,254	10,586	20,840	32.2	27,291	2,388	1,130	31.7	233	11.6	6,937	128	51.9
.....1937	9,241	10,874	20,115	27.0	27,202	2,335	1,109	31.9	263	13.2	7,730	135	58.1
Chicago & Eastern Illinois.1938	3,286	2,744	6,030	14.1	28,351	1,561	655	25.6	564	32.8	3,630	115	52.0
.....1937	2,219	3,822	6,041	3.5	29,563	1,706	774	28.0	730	37.5	4,719	108	60.6
Elgin, Joliet & Eastern....1938	8,651	2,525	11,176	9.4	17,023	1,864	887	36.1	201	9.3	5,068	109	44.3
.....1937	8,472	4,910	13,382	5.4	18,775	2,066	1,039	39.8	275	11.7	9,011	106	69.2
Long Island .....1938	362	3,752	4,114	3.3	5,232	729	278	29.2	67	4.4	639	293	44.8
.....1937	359	3,291	3,650	2.7	5,651	720	275	29.1	68	4.6	608	316	40.6
Pennsylvania System .....1938	200,373	51,498	251,871	19.3	38,321	2,661	1,166	29.0	345	18.9	8,778	104	49.2
.....1937	181,582	69,947	251,529	15.9	36,024	2,591	1,209	31.7	471	23.2	11,843	108	63.3
Reading .....1938	24,667	9,811	34,478	21.7	26,894	2,152	1,033	33.8	317	14.9	7,770	126	42.8
.....1937	21,277	13,184	34,461	10.6	25,653	2,029	982	34.2	371	17.0	9,030	126	53.3
Pocahontas Region:													
Chesapeake & Ohio.....1938	42,998	11,952	54,950	4.4	58,121	3,996	2,196	46.8	1,055	40.0	19,121	68	61.1
.....1937	40,448	15,337	55,785	1.3	55,936	3,969	2,194	46.7	1,166	43.7	21,286	68	65.6
Norfolk & Western.....1938	34,692	5,784	40,476	1.7	52,527	3,592	1,891	43.0	938	37.1	17,824	90	68.1
.....1937	30,136	5,701	35,837	2.1	54,928	3,740	2,022	46.0	1,246	46.3	21,463	87	77.9
Southern Region:													
Atlantic Coast Line.....1938	17,020	6,661	23,681	23.0	21,279	1,290	454	20.0	295	22.9	1,368	104	45.4
.....1937	15,400	8,553	23,953	21.3	20,173	1,241	473	20.3	335	24.5	1,557	108	49.6
Central of Georgia.....1938	4,457	2,586	7,043	1.9	22,794	1,209	459	20.5	481	32.7	1,822	114	67.6
.....1937	3,435	4,611	8,046	1.5	21,708	1,187	476	21.8	511	32.5	2,202	119	79.6
Illinois Central (incl. Y. & M. V.).....1938	27,935	17,998	45,933	3.9	27,585	1,846	776	27.1	660	38.3	4,830	117	53.0
.....1937	27,790	24,107	51,897	12.9	27,259	1,767	747	26.7	692	39.9	5,351	119	60.8
Louisville & Nashville....1938	35,061	9,929	44,990	21.8	27,414	1,785	856	33.8	619	30.5	5,794	117	71.5
.....1937	29,793	10,410	40,203	13.6	26,356	1,730	852	35.1	780	36.7	6,600	116	81.9
Seaboard Air Line.....1938	10,604	4,539	15,143	3.9	23,770	1,488	576	22.4	540	36.5	1,890	114	55.0
.....1937	9,471	5,915	15,386	2.3	23,182	1,472	590	22.5	560	35.8	1,989	116	54.7
Southern .....1938	20,108	18,190	38,298	9.8	22,695	1,334	528	22.8	571	37.3	3,274	133	63.1
.....1937	20,068	19,085	39,153	11.9	21,654	1,285	528	22.7	560	35.3	3,327	138	59.5
Northwestern Region:													
Chicago & North Western..1938	40,290	21,603	61,893	9.5	28,969	1,917	664	22.0	296	21.4	2,148	105	47.9
.....1937	36,389	22,639	59,028	8.2	27,234	1,806	680	24.0	386	25.9	2,691	109	57.8
Chicago Great Western....1938	2,612	3,712	6,324	2.7	32,772	1,817	644	21.9	878	64.0	3,739	117	102.4
.....1937	2,116	5,096	7,212	2.5	32,174	1,845	683	22.9	935	65.6	4,557	122	117.2
Chi., Milw., St. P. & Pac.1938	45,976	17,471	63,447	3.2	29,151	1,831	744	26.7	471	28.8	2,770	111	70.0
.....1937	41,955	22,824	64,779	2.9	28,033	1,772	714	26.0	522	32.8	3,028	114	85.8
Chi., St. P., Minneap. & Om.1938	3,234	5,809	9,043	7.9	18,667	1,454	598	25.6	446	26.8	2,547	101	57.5
.....1937	3,620	6,091	9,711	7.4	18,552	1,448	604	26.5	484	28.5	3,016	101	68.7
Great Northern .....1938	37,242	15,363	52,605	5.4	35,246	2,540	1,101	31.9	626	34.1	4,263	99	65.1
.....1937	36,483	14,778	51,261	5.0	37,177	2,615	1,194	32.9	763	39.9	5,146	94	72.5
Minneap., St. P. & S. St. M.1938	12,850	3,793	16,643	4.9	22,387	1,382	579	25.4	414	24.8	1,649	92	83.8
.....1937	12,717	5,104	17,821	2.9	23,383	1,505	651	26.8	512	30.0	2,163	92	97.9
Northern Pacific .....1938	31,324	6,383	37,707	8.8	30,958	2,026	832	25.4	488	29.2	2,882	129	60.0
.....1937	28,357	8,254	36,611	6.6	30,572	2,040	813	25.6	625	39.8	3,503	133	73.7
Central Western Region:													
Alton .....1938	1,532	5,850	7,382	10.0	33,549	1,384	459	20.8	385	29.0	3,257	114	79.0
.....1937	2,381	6,398	8,779	16.6	33,902	1,450	575	24.5	472	29.4	4,505	118	85.5
Atch., Top. & S. Fe (incl. G.C. & S.F. & P. & S.F.).....1938	74,809	11,846	86,655	10.3	35,267	1,848	599	20.8	402	31.1	2,603	110	76.2
.....1937	65,050	14,845	79,895	8.0	33,810	1,831	645	21.9	512	35.8	3,055	111	82.8
Chicago, Burl. & Quincy...1938	28,656	16,005	44,661	6.7	31,955	1,897	733	24.8					

PANTASOTE and AGASOTE

Are the Outstanding Favorites

on the New

STREAMLINED TRAINS

FOR more than 40 years Agasote and Pantasote have demonstrated their utility, durability and economy by rendering eminently satisfactory service in passenger equipment. It was but logical, therefore, that these two superior materials should have been selected for the 1300 new Eighth Avenue subway cars and used on practically all the new streamlined trains.

THE PANTASOTE CO., Inc.

250 Park Avenue, New York City

683 Atlantic Ave.

BOSTON

751 Monadnock Bldg.
SAN FRANCISCO

3611 Clinton Drive

HOUSTON

Peoples Gas Bldg.
CHICAGO

Selling Agents for

THE PANTASOTE LEATHER CO.

PASSAIC, N. J.

and

THE HOMASOTE COMPANY

TRENTON, N. J.

(In the Railroad & Marine Field)



KING SANDER TRAP N° 34

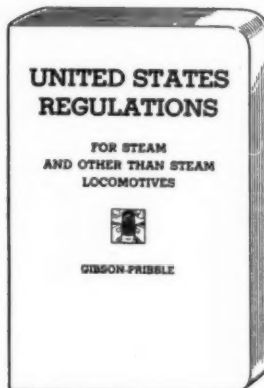


Provision for automatic cleaning blast embodied within the trap. Adjustable for grade of sand, flow required and air pressure.

Single, Duplex and Triplex operating valves to suit varying arrangements.

THE U. S. METALLIC PACKING CO.
PHILADELPHIA, PENNSYLVANIA

United States Regulations FOR LOCOMOTIVES



IN One Volume is included all current Rulings, Interpretations, Tables and Forms of the Bureau of Locomotive Inspection, together with Safety Appliance Standards for Locomotives, as prescribed by the Bureau of Safety.

In this new pocket-sized book is combined the material of four government booklets on the laws and regulations covering railway motive power. Superfluous citations and obsolete material is left out so that it boils down to 219 pages, including a complete cross-index and 23 line drawings.

CONTENTS

Locomotive Inspection Law—Steam Locomotive, with Interpretations and Rulings relative thereto, quoted directly after each Rule to which applicable—Locomotives Other Than Steam—Complete Set of Sample Report Forms—Line Drawings showing limits of wear on wheels, gauges for measuring flat spots, and coupler gauges—Safety Appliance Standards—Complete Index.

219 pages, 23 illustrations, 4 1/8 x 6 5/8, flexible cover, \$1.25. Special prices on quantities.

Money Back if Not Satisfactory

Book Service Department

Simmons-Boardman Publishing Corp.

30 CHURCH STREET

NEW YORK, N. Y.



KERITE

in three-quarters of a century of continuous production, has spun out a record of performance that is unequalled in the history of insulated wires and cables



THE KERITE INSULATED WIRE & CABLE COMPANY INC.
NEW YORK CHICAGO SAN FRANCISCO